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INTEROCEANIC COMMUNICATION.—COMMERCE WITH THE EAST.

THE ATRATO AND TRUANDO CANAL TO CONNECT THE ATLANTIC AND PACIFIC OCEANS.

For centuries the civilized nations of the earth have, from time to time, directed their attention to the importance of shortening the passage to, and facilitating communication with, the rich and productive countries of the East.

As long ago as when Carthage was in the days of her greatness, efforts were made to navigate the Red Sea and the Persian Gulf, and the wealth and grandeur of Venice was mainly derived from her trade in silks, purple and fine linen of India, with the transhipments into the interior of the surrounding countries and dependencies.

The discovery of the passage of the Cape of Good Hope changed the direction of trade, and threw the control of the commerce of the world into the hands of those nations conducting it, and our own continent takes its place on the map of the civilized earth from the same burning desire. Columbus sought a passage to the far-famed "land of spices, myrrhs and cloths pleasant for kings to look upon."

The English, in later times, have spent millions of treasure hoping to find a northwest passage. But the icy shores and frozen seas of the north have so far checked all progress in this direction, notwithstanding many a manly heart and daring spirit has toiled and suffered long for its accomplishment.

It is known that a passage does exist around the northern coast of North America, but it is for all commercial purposes utterly impracticable, and must forever so remain.

The physical geography of America, in consequence of the proximity of the western with the eastern shores, indicate the route to exist, if at all, within the tropics, and half a century

ago the subject received very great attention from that great and learned explorer the Baron Von Humboldt. In his political essay on the kingdom of New Spain he mentions three distinct routes as more likely to afford the necessary facilities than any others, namely, by way of Nicaragua, Panama and the Atrato river.

The Panama route had long before been looked upon favorably and had received some attention. The route by the Lake Nicaragua was less known.

As early as the beginning of the present century the English had explorations made of the Isthmus of Panama, and in 1843 the French government directed the chief of the corps of sappers and miners, M. Garilla, to locate a *canal* from Chagres, on the Atlantic, to Panama, on the Pacific.

Subsequently, many surveys were made by the orders of different interests at Nicaragua.

At Panama a canal of sufficient proportions to be commercially useful was deemed impracticable, in consequence of the enormous expense that would be necessary to construct reservoirs to feed the summit level and the great number of locks required.

At Nicaragua a canal can be built, but it would require flights of *twenty-eight* locks, and then would only be competent to perform a very limited service. But up to a comparatively recent period the third point, namely, the Atrato river, was entirely overlooked and neglected, probably on account of the apparent breadth of the isthmus at this locality. Strange as it may seem, nevertheless this line possesses favorable features not known to either of the others. It is incomparably preferable for a water communication between the two oceans.

How long this route might have remained unknown had not the wants of commerce imperatively called for it, no one can tell, and it was not until an enterprising American citizen, about four years ago, seeking for a solution of the great problem of the best route for the trade of the world to take to the East Indies and our western Pacific possessions, encountered Humboldt's opinions; and knowing all the advantages and disadvantages of the Isthmus of Panama and the Lake Nicaragua, determined to have explored the third line indicated, that by way of the Atrato river. This citizen was Frederick M. Kelley, of New York.

Mr. Kelley having satisfied his own mind that the probabilities were in favor of the Atrato route, engaged the services of engineers, and has had the entire valley of the Atrato thoroughly explored.

It is needless to refer to the perplexities and difficulties that

have presented themselves during the past three years. The researches that have been made extend over a country nearly or quite as large as the State of Virginia. Most of the examinations were conducted on the rivers or through impenetrable thickets, that had to be cut away foot by foot to afford a passage.

No less than four complete corps of engineers, with their assistants, laborers, boats, tools, instruments and camp equipage have been fitted out, and have traversed and explored the country, and while the result of other expeditions, in some cases disastrous and in others unsatisfactory, having for their object the same desideratum, were heralded to the world, the explorers on the Atrato and its tributaries quietly pursued their labors, unheard of and unknown except by a few friends of the undertaking, who anxiously and solicitously watched them.

It is these researches, undertaken and pursued so unostentatiously but so perseveringly, that have been crowned with such signal success.

The Atrato river lies very nearly on the seventy-seventh meridian of west longitude; its debouche is in the Gulf of Uraba or Darien, at the point where the coast takes a decided change to the southeast below the Isthmus of Darien. The valley of the river is about three degrees in length and one and a half degrees in width. The river itself, measured through its meanderings, is upward of three hundred miles in length. It enters the ocean by nine mouths or bocas. The water on the bars at these mouths is quite shallow, not exceeding four feet in depth, but the bars are only alluvial deposits and may readily be removed, either by dredging or by turning the river from three or four of the channels into one, and thus scouring the bar out into deep water. Outside of the bars there is from four to seventeen fathoms of water, in an excellent harbor, safe and sheltered at all times, and capacious as New York or San Francisco. Within the bars the river deepens suddenly, and for sixty-five miles up it maintains at all seasons an average depth of seventy feet. The least depth anywhere in this distance is forty-seven feet. It varies in width from a quarter of a mile to two miles.

The river is navigable for steamboats drawing ten feet of water to the town of Quibdo, 220 miles from its mouth, and in this great distance is unobstructed.

By reference to the accompanying map, the general outline of the country and the direction of the proposed interoceanic communication will be understood.

The route lies up the Atrato river sixty-three miles, it then follows a tributary from the left side of the valley, called the Truando, which is now navigable for steamboats drawing twelve feet of water for thirty-eight miles from its confluence with the Atrato.

The Truando follows through an alluvial basin, in many places filled with water and intense vegetation, forming lagoons or lakes somewhat similar to the everglades of Florida. The bottom of this river is soft mud.

From the head of navigation on the Truando to the Pacific ocean is twenty-five miles.

The route from where the waters of the Truando are left lies first through clay slate of the secondary formations, then through primitive rocks of the gneiss order, thence through an anteclinal axis of columnar basalt, with a repetition in corresponding positions of the primitive stratified rocks and secondary slates, which are found on the shores of the Pacific.

Between the Truando and the Pacific the cutting will be deep. The summit of elevation through the divide is five hundred and six feet above mean tide in the oceans, but the sides of the water-shed are very steep, and the connexion is proposed through a tunnel three miles and a quarter in length. At the Pacific terminus there is an excellent harbor, called Kelley's inlet, capable, with slight improvements, of accommodating the trade of the world.*

The point of confluence of the Atrato and Truando having been determined instrumentally to be fifteen feet and two-tenths of a foot above the mean tide of the two oceans, which is a true level, it is proposed to deepen the bed of the Truando, and to make an open cut to the Pacific.

The canal contemplated is to have a depth of water of thirty feet, and two hundred feet wide.

The distinctive features of this route will then be, that of good harbors at the termini, thirty feet depth of water way at extreme low tide through the entire distance, two hundred feet wide, and without any *locks* or *gates* or *obstructions of any kind* from one ocean to the other, and sufficiently capacious to pass two of the largest ocean steamers.

The tides on the Pacific vary in the quantity of rise and fall at different places on the coast. At the proposed terminus of the canal, or Kelley's inlet, there is about twelve feet, at the Bay of San Miguel there is about twenty-eight feet, near Panama there is upwards of thirty feet, further up the coast there is more; but on the Atlantic side the tide does not

* This inlet lies in latitude 6° 57′ 30″ north.

exceed twenty-two inches rise and fall from Chagres to Carthagena, and is nearly uniform this entire distance.

The mean level or half way between the average high and low waters in the two oceans is exactly the same height.

Now, it will be readily seen that if an open cut was made at any point on a true level from one ocean to the other, the tides of the Pacific rising more than the tides of the Atlantic, and a little later, in consequence of the difference of longitude, the water of the Pacific would flow through into the Atlantic at high tide with great velocity, and *vice versa*, at low tide, if the connexion were made at any point on the Isthmus of Darien.

But on the line via the rivers Atrato and Truando, the ascent of the river attaining an elevation greater than that of high tide in the Pacific, the summit will never be overflown by the waters from that ocean.

Again, as the Atrato continues to rise in ascending it, if it were proposed to connect it with the Pacific from a point much higher up than the mouth of the Truando, locks would be necessary to make the descent into the Pacific. As it is, however, the natural facilities that exist for making the connexion with the Pacific occur very nearly on a line that would be determined theoretically as the true point of junction, because from the mouth of the Truando to the Pacific is within a mile and a half the same distance as to the mouth of the Atrato, and the current would run from here in either direction with the same velocity, or nearly so, thus, as it were, by a great river having two mouths, one entering either ocean.

By this location the Atrato river becomes the feeder of the summit level, and, by comparison of the sections of the river and the prism of the canal, it is found that the depth of water in the Atrato will only be reduced *four feet*, if all that is necessary to supply the open cut should be drawn from it, and the Atrato at this point is fifty-eight feet deep.

This, however, will not be the case, as the Truando has many tributaries, and the great lakes and lagoons and the flow from the Pacific at high tides will afford such a quantity that by estimation the Atrato will be reduced less than a foot.

A very important feature in this enterprise is the healthfulness of the country where the work is to be done.

The river Atrato and its valley is unhealthy beyond doubt, as the continual rains cause the miasma of decaying vegetation constantly to load the atmosphere; but the heaviest portions of the work lie in a country altogether different.

The salubrious winds of the Pacific constantly blow upon the water-shed of the Cordillera range, and here is found the most delightful of all tropical climates. Cool at night, and not immoderately heated in the day time, the land produces in the most luxuriant manner everything desirable for the food of man and animals that usually grow in the most favored regions of the tropics.

The opinion of those who have given much time and attention to the subject is, that this region will sustain as large a population as any part of the island of Cuba of similar extent.

The valley of the Nerqua and the dividing ridge, together with the Hingador valley, and the whole coast from Humboldt bay to the settlements on the Jurador, in fact, the entire slope of the divide on the Pacific side is peculiarly healthy.

The total number of men that will be necessary to do the work on the whole line is estimated at twenty-five thousand, and that number will require to be kept constantly at work for twelve years.

The facilities that exist for obtaining workmen are very ample. Careful inquiries have been made concerning the natives of the adjoining provinces, who are said to be faithful and industrious men, and the opinion is formed that at least six thousand workmen could be counted on as a constant supply.

The Jamaica negroes also can be relied on in great numbers. It will, however, probably be necessary to institute a regular system of immigration from Europe and Asia.

When the work on the canal is once organized, and sufficient workmen are on the ground, from five to six thousand per year will be sufficient to supply the places of those who may die or remove from the works.

The supplying of this great legion with the comforts and necessaries of civilized life will be carried on similarly to that of an army in quarters and under a properly organized commissary department.

Supplies can be brought from all parts of the world to the mouths of the Atrato, and transhipped by steamboats (when the bars are cleared away) up the river directly to where the excavation commences.

On the Pacific the facilities are very great, for there being fine accessible harbors, supplies can be brought almost immediately to the work from Chili, Peru, Sandwich Islands, California, and Oregon; also that part of the country west of the mountains is particularly well adapted to cultivation, and fruits of many kinds grow in great profusion and spontaneously.

A summary of the estimated cost of the canal and appurtenances:

Works at the mouth of the Atrato - - - -	$50,800
Subaqueous excavations on the Truando - -	1,360,000
Excavations, including coffer dams, &c., at the junction of Truando and canal - - - - -	40,000
Excavation between above junction and the Pacific, (excepting the tunnel,) at 87½ cents per yard - - - - - - - - - - - - -	77,883,994
Tunnel, at $2 per cubic yard - - - - - -	25,403,840
Harbor improvements, depots, hospitals, lighthouses, piers, &c. - - - - - - - - - -	375,000
Cost of the several departments, including supplies for do., &c., - - - - - - - - -	1,962,000
25 pumping and hoisting engines for the work in the great cut - - - - - - - - - -	1,250,000
	108,325,634
Contingencies 25 per cent. - - - - - - - -	27,081,408
	135,407,042
If the rock is estimated at $1 per cubic yard, this would be extra, with contingent allowance, about - - - - - - - - - - - - -	10,000,000
	145,407,042

It is not pretended that the above is more than an approximate estimate; it is, however, believed to be ample.

The dredging is generally done for one-half what is here allowed, and rock work, in this character of material, for much less than the estimate.

It may be remarked, in connexion with this estimate, that this prism is intended to pass two of the largest class of seagoing vessels abreast, and without locks.

That a saving of many millions of dollars may be effected by changing the plan there is no doubt.

Width for but one ship at a time, with frequent turnouts,

Calculations relative to the commercial value of the canal: might be estimated for, and by putting one or more locks on the Pacific the depth of cutting through the rock might be correspondingly reduced.

All this, however, would not produce a perfect work, and therefore is not estimated.

Table showing the saving of time from New York by the new route, via the Isthmus of Panama, as compared with the old routes, via the Cape of Good Hope and Cape Horn, to the places therein named, estimating the distance which a common trading ship will sail per day to be 110 miles, and calculating for the voyage out and home.

To—	Distance via Cape of Good Hope.	Length of passage out and home.	Distance via Cape Horn.	Length of passage out and home.	Dist. via Isthmus of Panama.	Length of passage out and home.	Saving by the Isthmus over Cape G. Hope.	Saving by the Isthmus over route via Cape Horn.
	Miles.	*Days.*	*Miles.*	*Days.*	*Miles.*	*Days.*	*Days.*	*Days.*
Calcutta	17,500	318	23,000	418	13,400	244	74	174
Canton	19,500	354	21,500	390	10,600	192	162	198
Shanghae	20,000	362	22,000	400	10,400	188	174	212
Valparaiso	.....	.....	12,900	234	4,800	86	.....	148
Callao	.....	.....	13,500	244	3,500	62	.....	182
Guyaquil	.....	.....	14,300	260	2,800	50	.....	210
Panama	.....	.....	16,000	290	2,000	36	.....	254
San Blas	.....	.....	17,800	322	3,800	68	.....	254
Mazatlan	.....	.....	18,000	326	4,000	72	.....	254
San Diego	.....	.....	18,500	336	4,500	82	.....	254
San Francisco	.....	.....	19,000	344	5,000	90	.....	254

The immense saving of time by the isthmus route has attracted the attention of all interested in commerce since the American continent was first discovered.

Cortez, about three centuries ago, searched in vain for a natural passage between the two oceans, and many others followed the same course. When a canal was first proposed, English capitalists joined heartily in the scheme, and the shrewdest foreign merchants and bankers have been ever ready to listen to any suggestion for its accomplishment. If this were considered important twenty years ago, how much more so now, when the trade between Great Britain and her Australian colonies and other near ports has increased from $3,000,000 to $75,000,000; when California has opened to the commerce of the world her golden gates, and Japan is ready to renew, on a grander scale, her share in the trade of the world.

The trade between California and Atlantic ports will soon be almost sufficient of itself to support such an enterprise as we propose. The total amount of freight money paid at San Francisco for the year ending January 1, 1853, was $11,752,084; nearly all of which was for cargoes that went from northern ports around Cape Horn. The following is a summary of these payments:

Payments as freight money at the port of San Francisco during the year 1853.

Months.	From eastern and domestic ports.	From foreign ports.	Total.
January	$981,773	$204,172	$1,185,945
February	611,609	188,756	800,365
March	927,670	254,079	1,181,749
April	727,203	191,174	918,377
May	811,728	139,077	950,805
June	776,069	147,394	923,463
July	1,440,341	78,668	1,519,009
August	998,917	188,813	1,187,730
September	894,649	105,185	999,834
October	797,575	127,672	925,247
November	506,311	159,267	665,578
December	437,587	56,395	493,982
Total	9,991,432	1,840,652	11,752,084

The above only shows the freight money actually collected at the port of San Francisco. Vessels from Europe, and many from domestic ports, received a great portion of their freight at the port of clearance, and this, of course, is not included. This is true to a still greater extent of the commerce of 1854, a large portion of the freight money not being collected at San Francisco, and yet the total thus collected in that year amounted to $5,311,022, as will appear from the following summary:

Payments as freight money at the port of San Francisco during the year 1854.

Months.	From N. York.	Boston.	Other Atlantic ports.	Foreign ports.	Total.
January	$482,458	$196,603	$17,466	$149,983	$846,510
February	238,336	321,896	32,480	164,861	757,573
March	160,181	120,180	40,364	152,347	473,072
April	193,766	141,200	10,000	43,951	388,947
May	195,433	135,693	9,350	50,913	391,389
June	134,000	109,581	26,611	104,503	374,695
July	137,986	103,485	3,801	32,441	277,713
August	221,536	38,861	39,703	122,837	422,937
September	210,716	146,754	3,000	75,037	435,507
October	202,103	65,248	46,670	36,711	350,732
November	146,985	96,201	15,623	42,628	301,437
December	149,327	67,317	.....	73,866	290,510
Total	2,472,827	1,543,019	245,068	1,050,108	5,311,022

The tonnage engaged in the California trade is very large, the arrivals at San Francisco, in 1853, being 1,028 vessels, amounting to 558,755 tons, and the clearances 1,653 vessels, amounting to 640,072 tons; in 1854 the arrivals were 620 vessels of 406,114 tons, and the clearances 1,193 vessels of

515,861 tons; of the above, a very large proportion came from the Atlantic via Cape Horn.

But the trade of California, large as that is shown to be, is not the chief reliance of the friends of the proposed canal. The trade between the United States and foreign Pacific ports has been in a great measure overlooked by those not directly engaged in it, and its importance has never been sufficiently estimated. We have obtained from the department at Washington some reliable information upon this subject, which will be found full of interest.

These statements show that the total clearances from the United States to foreign Pacific ports and arrivals from the same have increased about 200 per cent. since 1849, the tonnage showing a still larger increase, (owing to the larger vessels employed,) while the total imports and exports have doubled during the same space of time. This will fully appear from the following summary, taken from official returns:

Commerce between the United States and foreign Pacific ports.

Fiscal years.	Number of vessels.	Tonnage.	Value of imports and exports.
1849 - - - -	626	244,035	$17,001,320
1850 - - - -	1,148	383,574	18,402,103
1851 - - - -	2,040	673,619	21,375,428
1852 - - - -	1,693	661,980	27,013,110
1853 - - - -	1,803	787,707	31,554,653
1854 - - - -	1,858	957,599	33,953,456

The above is totally exclusive of the commerce between the Atlantic ports and California, and presents an increase of trade truly astonishing. In order to show the materials from which the above is compiled, we annex the details for the last year mentioned.

Commerce between the United States and foreign Pacific ports for the year 1854.

	Entered from.		Cleared to.		Exports.	Imports.
	Vessels.	*Tons.*	*Vessels.*	*Tons.*		
Dutch East Indies...	20	8,986	18	7,951	$184,776	$1,041,609
British East Indies..	96	58,043	64	46,397	636,412	5,378,321
Australia.....	19	8,342	105	44,410	3,149,079	214,202
Manilla.....	37	24,549	20	17,641	74,502	2,965,282
Chili.....	107	41,719	112	44,774	2,193,259	3,332,167
Peru.....	278	179,722	251	158,510	685,155	1,005,406
China.....	107	70,426	121	87,205	1,398,088	10,506,329
Minor Pacific ports..	123	42,264	155	50,560	952,815	10,103
Do..Indian ocean.	6	1,352	6	3,814	200	60,730
Japan.....	.....	.....	1	500	.....	.....
Sandwich Islands...	73	23,738	69	21,252	55,891	119,130
Northwest coast....	29	6,490	39	8,954	.....	.....
Totals.....	895	465,631	961	491,968	9,320,177	24,633,279

Of this 1856 vessels, amounting to 957,599 tons, and carrying $33,953,456 value of merchandize, it is evident that nearly every sail would pass through the ship canal at the Isthmus, if such an one were constructed.

In further confirmation of this, we can see what preference was given to the clippers over ordinary sailing vessels, time being reckoned of so much value. We can hardly conceive it possible for a ship, clearing from New York for San Francisco, to prefer a voyage of 19,000 miles, when, by the use of a ship canal, without danger or detention, it could shorten the distance to 5,000 miles! The interest upon the ship, the value of the cargo, and the cost of victualling and sailing the vessel, to say nothing of the dangers incident to a protracted voyage around the southern point of the continent, would determine every vessel making a voyage from any American port on the Atlantic, to any port in the Pacific, to adopt the advantages offered by the canal.

The trade between the various European states and the Pacific is large, and much of it, undoubtedly, would pass through the canal if such a channel of communication were completed. The following will show the number of ships, the tonnage, and the imports and exports between France and the Pacific ports during the year 1852.

	Vessels.	Tons.	Imp'ts and Exp'ts.
			Francs.
British India - - - - - -	54	18,250	45,200,000
Society Islands - - - - -	81	23,666	40,300,000
Peru - - - - - - - - -	32	11,051	25,200,000
Chili - - - - - - - - -	7	2,178	19,300,000
French India - - - - -	25	7,886	13,400,000
Dutch India - - - - -	16	5,076	7,300,000
Phillippine Islands - - -	4	1,252	1,700,000
China - - - - - - - - -	3	912	1,100,000
Bolivia - - - - - - - -	1	500	100,000
Total - - - - - - - -	223	70,771	153,600,000

Showing a total of 223 vessels, 70,771 tons, and imports and exports amounting to 153,600,000 francs, or over $30,000,000, for the trade of a single year.

In turning to the trade of Great Britain, we hardly know where to draw a line as to the portion of her immense commerce likely to avail itself of the advantages of the new route. Her direct carrying business between her own East

India possessions and the home ports is nearly $100,000,000 per annum, while to that is to be added the China and other East India commerce. Her traffic between the ports in the United Kingdom and the western coast of North and South America would certainly seek the new channel, and this, reckoning the cargoes both ways, now amounts to upwards of $30,000,000.

The most important branch of British trade certain to pass through the canal is that connected with Australia; and here, lest we might be accused of exaggeration, we prepare to give the official figures.

The following are the declared values of imports and exports at the colony of Victoria for the years 1853 and 1854:

Imports.

	1853.	1854.
Building materials	£2,004,793	£2,436,071
Dry goods	2,869,542	3,592,093
Iron and iron manufactures	1,059,261	1,354,653
Leather and leather manufactures	461,994	527,311
Provisions and groceries	1,460,245	1,701,203
Specie	1,163,344	87,480
Spirits	1,015,053	838,704
Sugar and molasses	486,614	427,061
Tea	205,364	292,837
Tobacco	357,396	194,423
Wine	373,524	409,075
Miscellaneous	4,385,502	5,858,396
Total imports	15,842,637	17,720,307

The following will show from what countries the above were imported:

	1853.	1854.
Great Britain	£8,288,226	£11,050,329
British West Indies	14,973	20
British North America	13,560	60,238
Other British colonies	5,036,311	4,394,936
United States	1,668,606	994,692
Other foreign States	820,961	1,220,092
	15,842,637	17,720,307

Exports from Victoria.

	1853.	1854.
Gold - - - - - - - - - - - -	£8,644,529	£8,255,550
Wool - - - - - - - - - - - -	1,651,871	1,618,114
Miscellaneous - - - - - - - -	765,143	1,901,540
Total exports - - - - - - -	11,061,543	11,775,204

The following will show the countries to which the above were exported:

	1853.	1854.
To Great Britain - - - - - -	£9,875,624	£10,270,213
To British colonies - - - - -	942,741	1,378,107
To United States - - - - - -	19,646	50,933
To other foreign States - - -	223,532	75,951
Total exports - - - - - -	11,061,543	11,775,204

These statements, showing a total of £39,495,511, imports and exports, for a single year, would be almost incredible were they not taken from the official returns.

We might go further and give in detail the commerce of each of the South American States bordering on the Pacific, whose trade has wakened into new life within the last two or three years, but the foregoing will serve the purpose of illustration.

These are not estimates of a commerce like to be created by the construction of a canal, but statements of a commerce now in being, a large portion of which would avail itself at once of this interoceanic communication. With such a business before us, the contemplated cost of the canal sinks into comparative insignificance. A very small tax upon such an immense amount of tonnage would keep the works in repair, and pay a large interest upon the capital expended. To say nothing of the lessoned risk and the consequent reduction in cost of insurance, the convenience to the world of such a speedy transit from ocean to ocean without breaking bulk or unbending a sail can hardly be over-estimated.

The wrecks which strew the tempestuous coasts around the lower extremities of the two continents, or repose far beneath the surface of their heaving billows, will be left alone without the annual additions made to their sad catalogues by fresh disasters.

Calculations relative to the commercial value of the canal:

The freight paid at San Francisco on goods from the Atlantic, in 1853 alone, being only a part of the trade, as some freights were paid before shipping, was $9,911,432. At least three-fourths of this would be saved—$7,433,574, or interest at 6 per cent. on - - - - - - - -	$123,892,900
The foreign trade to San Francisco that would be benefitted one-half, saving of freight paid at port in 1853, $1,840,650; saving on which would be $920,325, or the interest at 6 per cent. on - - - - - - - - - -	15,338,750
The United States foreign Pacific trade was carried on in 1854 in 961 vessels bound out, and 895 entered home, showing that the trade is equal to over two-thirds that of our domestic California trade, and would, therefore, by passing this canal, save a sum, interest at 6 per cent. on - - - - - - -	99,450,570
Thus showing that the canal would save to the United States alone the interest on the sum of - - - - - - - - - - - - - - -	238,682,220
The saving that would be made to the Pacific trade of France would be a sum equal to the interest at 6 per cent. on - - - - - -	$90,000,000
The British trade through this canal, even not estimating an increase, if taken in the same ratio as the foregoing, would be equal to interest on $540,000,000. Considering facilities by way of Cape of Good Hope, say interest on - - - - - - - - - - - - - -	300,000,000

The statement would then be:

United States - - - - - - - - - - - - -	238,682,220
France - - - - - - - - - - - - - - -	90,000,000
England - - - - - - - - - - - - - - -	300,000,000
Other countries - - - - - - - - - - - -	100,000,000
	728,682,220
Cost of canal, 6 per cent on - - - - - - -	200,000,000
Saving to the world, 6 per cent. on - - - -	528,682,220

Or twelve per cent. profit on the cost of the canal at $200,000,000, and a benefit to the world at large of the saving of interest at 6 per cent. on $328,682,220 annually.

The above figures, although made from the official returns,

are only approximate, as they do not include many items of trade that now exist, and no allowance is made for the increase of trade whatever.

The data are taken from Mr. Stone's commercial statements.

The principal engineers that have been employed on these surveys are Mr. John C. Trantwine, of Philadelphia, Mr. Porter, of Ohio, Mr. James C. Lane, and Captain William Kennish, of New York.

Mr. Trantwine surveyed the Atrato and San Juan to their sources. Mr. Porter and Mr. Lane examined the connexion between these rivers. Captain Kennish, also, as well as these gentlemen, examined the Atrato all the way to the ocean, as well as its mouths.

Mr. Lane ascended the Truando to the saltas or falls, and suggested the line by this route. Captain Kennish made the surveys for the location upon which the estimates have been predicated by Edward W. Serrell of New York. It is due to Captain Kennish to say that he appears to have been the first engineer to suggest the connexion of the oceans by an open cut, which is in reality two mouths of a great river, one to empty into the Atlantic and the other into the Pacific.

NOTE.—Mr. Lane, civil engineer, suggested that it might be desirable instead of forming jettees at the caños of the Atrato, to make a cut from the Coquito to deep water in the harbor, and to put guard gates, so that there might be no impediment from sedimentary deposits, the deposits taking the natural channel.

LAW AND LAWYERS.—BY THE EDITOR.

No. III.

CHARACTER OF THE LEGAL PROFESSION—THE CHANLELLORS AND JUDGES OF ENGLAND, ETC.

There is, however, a great and significant objection which is made to the legal character, and it has brought, in all ages, the darkest reproach. Let the lawyers escape from it as best they may, for we are unable to defend them longer; the ranks of the enemy are too strong and their numbers too formidable for this. They are accused of an indiscriminate defence of either side of a question, as they happen to be engaged, without any reference to the merits of the case. This custom has met with unmeasured denunciation, as we shall show by and by, from the mouths of sages in the law, moralists, philosophers, divines, whilst it has, at the same

time, been favored with distinguished apologists. In the offset, we might remark that there is nothing in the world of so pernicious a tendency in blunting and perverting all the powers of perception and of reason, independent of its immoral and irreligious character, as this promiscuous advocacy. "The habit of arguing," says Locke, (Essays 33,) "on either side, against our persuasions, dims the understanding and makes it lose by degrees the faculty of discerning clearly between truth and falsehood." A lamentable instance of this is furnished in the learned Chillingworth, alluded to by Upham,* in a quotation from Clarendon:

"Mr. Chillingworth had spent all his younger days in disputations, and had arrived at so great a mastery, that he was inferior to no man in these skirmishes; but he had, with his notable perfection in this exercise, contracted such an irresolution and habit of doubting, that, by degrees, he grew confident of nothing."

But when this debasing prostitution of mind is brought into the courts of justice, and there hired out to the highest bidder, and when the vilest cause in the world can engage a monopoly of it, well indeed may every friend of law and order tremble for the institutions and salvation of his country.

We are aware that some will meet us at this point with a stout denial of the evil influences, by telling us that the opposite sides are in equilibrio; that the forces neutralize each other; that talent, address, ingenuity—everything which can conduce to success—are in the hands of either party; so that, in the end, nothing can be lost by their employment. Now, let us ask, in calm deliberation, is not this converting the forum where justice and virtue ought to sit enthroned into an arena for angry contest, art, subterfuge, and chicanery? Is it not to leave the victory, and, of consequence, the administration of law itself, in the hands of him who has had the address to bring to his aid the greater amount of sophistry and craft, and can wield his deceptions with the greater impudence and the more barefaced and unblushing effrontery? Is it to this, then, that we have reduced the boasted perfection of our judicial forum? O dii immortales! ubinam gentium sumus? in qua urbe vivimus? quom rempublicam habemus? What! say the defenders of this indiscriminate advocacy, is it not in the face of our free and happy institutions that a man should be prohibited from pleading his own case, and saying anything in his defence that best pleases? And has he not a right to

* Mental Phil., 2, 382.

say by another what he might say himself? Can there be anything of moral perversion in the lawyer who becomes the mere conduit pipe through which the court receives what his client has to allege? Is not the lawyer a mere part of the machinery of justice, without power to decline the functions of that part, viz.: the making known to the court what it would not be expedient for it to hear from the client, even if that client had the capacity, which is not to be supposed? Would there not, in too many cases, be a palpable defect of justice, if the plain and manifest right of the cause must appear, before counsel will undertake, for is it not often the case that in the course of the hearing, even after the trial is at an end—nay, after execution is awarded—something turns up which gives an entirely new phasis to the question and chases away all the clouds, doubts, and darkness, which overshadowed the minds of those who had prejudged it? Did not the pure and pious Hale see fit to change the course which had characterized his earlier efforts at the bar, on discovering how often his first prejudices were dissipated by a nearer view of the case?* If lawyers, distinguished for integrity and spirit, were accustomed to make this discrimination, would it not throw an extensive amount of business into the hands of the dissolute, of which the profession shall never be in want? At the worst, is not truth and justice sifted out in the course of the various and conflicting allegations and pleadings, whatever may be intended by the parties, and could they be so well sifted out under any other system of practice? All of these, and a hundred other questions may be propounded, wherein plausibility disguises sophistry and wins its way to the hearts of incautious or interested reasoners. The answers could easily be made in detail, and the reader, if his understanding be trained up to right principles, will make them for us. All attempts to mystify so evident a matter must prove abortive. A plain, honest mind could never hesitate a moment its decision in favor of that minority who hold that in no case, and under no circumstances whatsoever, can it be the duty of the lawyer to advocate other than right and justice. Such an advocacy has on its side all the sanctions of morality and religion; it is a pure, a noble, and an elevated one; it upholds the character of the profession; attaches it to the State; enlists, in defence of society, its warmest sympathies; calls into exercise all the highest faculties of its professors;

*Alas! that the incorruptible Sir Matthew should be introduced in support of a practice which his whole life condemns.

assimilates them to the great Hale, the beloved Hamilton,* the pure Grimke.†

But, that we may not appear unsupported in our opinions, we shall introduce into this place some of the arguments that have been alleged by the advocates of either side. We are indebted for many of them to Mr. O'Brien, and if much space be occupied by their introduction, let the reader remember that they belong to great authorities, and have the most direct bearing upon the subject before us. We make no other apology.

The name of one, deservedly high in the Christian church, though frequently the advocate of error, presents itself first:

I. Dr. Paley. There are falsehoods which are not lies, as a prisoner pleading not guilty, a servant denying his master, and an advocate asserting the justice, or his belief of the justice, of his client's cause.

II. Dr. Johnson. Sir, you do not know it (the cause) to be bad till the judge determines it. An argument which does not convince yourself may convince the judge to whom you urge it, and if it does convince him, why then, sir, you are wrong and he is right. Everybody knows you are paid for affecting warmth for your client.

III. Mr. Montague. None but the ignorant and unreflecting can think Bacon censurable for anything that he did as counsel for the crown, as no advocate can justifiably use any discretion as to the party for whom he appears.

IV. Bishop Warburton. I apprehend it to be the natural right of every member of society, whether accusing or accused, to speak freely for himself; and if this cannot be done in person, to have a proxy provided or allowed by the State, to do for him what he cannot or may not do for himself. I apprehend that every advocate is such a proxy.

V. Basil Montague. He (the barrister) exerts his power to strengthen his own case and weaken his opponent's; because he knows that, taking all things into consideration, justice is best promoted by collision of intellect, and that the whole truth will be eviscerated by the opposite counsel, or that the intelligence which presides will not permit truth to be misrepresented by any partial examination.

VI. Lord Erskine. From the moment that any advocate can be permitted to say that he will or will not stand between the crown and a subject, arraigned in the court where he daily sits to practice—from that moment the liberties of England are at an end. If the advocate refuses to defend from what he may think of the charge or of the defence, he assumes the character of the judge; nay, he assumes it before the hour of judgment, and, in proportion to his rank or reputation, puts the heavy influence of perhaps a mistaken opinion into the scale against the accused, in whose favor the benevolent principles of English law makes all presumptions, and which commands the very judge to be his client.

VII. Benjamin D'Israeli. I confess I have imbibed an opinion that it is the duty a counsel owes his client to adjust him by all possible means, just or unjust, and even to commit a crime, for his assistance or extrication.

VIII. Lord Brougham. An advocate, by the sacred duty of his connexion with his client, knows, in the discharge of that office, but one person in the world—that client, and no other. To save that client by all expedient means, to protect that client at all hazards and cost to others, and, among others, to himself, is the highest and most unquestioned of his duties; and he must not regard the alarm, the suffering, the torment, the destruction, which he may

* On being asked by a young lawyer the best road to eminence at the bar, Hamilton replied, "Be ever found upon the right side."

† The name of Grimke must ever be venerated, associated as it is with all the highest qualities of human nature. We know his faults and forget them.

bring upon others; nay, separating even the duties of a patriot from those of an advocate, he must go on, reckless of the consequences, if his fate should unhappily be to involve his country in confusion, for his client.

These, then, are the authorities upon which the affirmative of the question rely, and strongly insist, with much of that confidence which results from the association of great names; but it must be remembered that "Great names can only give splendor to error, without being able to transform it into truth." However, the negative, in demanding to be heard, brings with it an array of names, not wanting in any of the elements of true greatness, as will directly be seen—divines, moralists, casuists, lawyers, legislators. Audi alteram partem.

I. Bishop Sanderson. Let it be a ruled case to thee, in all thy pleadings, not to speak in any cause to wrest judgment.

II. Hooker. If they who employ their labor, and travel about the public administration of justice, follow it only as a trade, not being persuaded in heart that justice is God's own verdict, and themselves his agents in this business, formalities of justice do but serve to smother right; and that which was necessarily obtained for the common good is made the cause of common misery.

III. Baxter. It is a dear-bought fee which is got by such a wilful, aggravated sin as the deliberate pleading for iniquity or opposing of the truth.

IV. Fuller. He (the advocate) joys not to be retained in such a suit, where all the right in question is but a drop, blown up with malice to be a bubble.

V. Thomas Aquinas. Now, the advocate clearly counsels and assists him whose cause he undertakes, and if he knowingly undertakes an unjust cause, is without doubt guilty of heinous sin, and is bound to make restitution to the party who, by his assistance, has been unjustly injured.

VI. Grotius. Qui sancta sumis arma civilis togæ cui se reorum capita, fortunæ, decus intenda credunt, nomini præsta fidem juris sacerdos: ipse die causam tibi litemque durus arbiter præjudica voto clientum jura metiri time, nec quod colorem patitur, id justum puta. Peccet necesse est sæpe, qui nunquam negat.

VII. St. Germains. He may give no counsel against the law of God or the law of reason; that a man should do as he would be done by is grounded upon both these laws.

VIII. Sir Matthew Hale. It is as great dishonor as a man is capable of, that for a little money he is to be hired to say or do otherwise than as he thinks.

IX. Sir John Davies. Good lawyers have not with us that liberty which good physicians have, for a good physician may lawfully undertake the cure of a foul and desperate disease, but a good lawyer cannot honestly undertake the defence of a foul and desperate cause.

X. Domat. All the duties of advocates may be reduced to two maxims: one, never to defend a cause that is unjust; and the other, not to defend just causes but by the ways of justice and truth.

XI. Lord Langdale. The zeal and the arguments of every counsel, knowing what is due to himself and his honorable profession, are qualified by considerations affecting the general interests of justice.

But why go on multiplying the authorities, which are sufficiently numerous, when we might well conclude that none at all are necessary. Is not the rule we advocate sustained by the immutable principles of right, as well as the civil institutions of many centuries? The Roman advocate was sworn never to defend a cause known to be unjust. A similar oath was administered to the Scotch; and in Holland

the advocate is so sworn even at the present day. The earlier English statutes were to the same point.

The catalogue of eminent lawyers affords frequent illustration of the fact that no position in society, however low and humble, can throw a barrier in the way of those who aspire to be great. Some of the brightest characters that have ever adorned the profession set out in life under circumstances the most discouraging, and worked their way upwards, at last, to the highest elevations, by the most untiring assiduities and labor. In the law there is no mushroom growth: the lawyer "is made," whatever be said of the poet, and the elaboration is one of highest effort. In his earlier prospects, everything is frequently dark and cheerless, and the most inglorious obscurity seems, for a long time, to threaten the talent and learning which need only an occasion for brilliant display. Frequently has it been the result of mere accident that the lawyer is brought into notice, and then the clouds begin gradually to be dissipated. Perhaps, it may be, the very difficulties with which, at first, he has had to contend, and the conflicts in his own bosom occasioned by them, have called into exercise and developed the loftiest energies of soul, and fitted, when the time should come, for the noblest achievements in the profession. Adversity, after all, is the school in which to educate men for greatness: it sharpens all their powers, it developes all their resources, it makes them great in their very struggles to exist. Who, that is at all acquainted with biography, needs yet to be informed of this? "Pray, my lord, what do you think my son had better do to succeed in the law?" "Let him spend all his money, marry a rich wife, spend all hers, and when he has not got a shilling in the world, let him attack the law." Such was Lord Kenyon's advice. Erskine used to say, that "when he was about giving up in despair at the bar, he felt his little children in imagination tugging at the skirts of his gown." And our own Patrick Henry doubtless discovered the potency of a combination of wife, children, and grim poverty. It might not be uninteresting to mention a few great ones who passed at first many a dreary year at the bar, without being harrassed with any of those unseasonable interruptions of which Horace makes his advocate complain:

> Agricolam laudat juris legumque peritus
> Sub galli cantum consultor ubi ostia pulsat.*

Sir Fletcher Norton, and Mr. Bearcroft, who became chief ustice of Chester, almost starved during the first years of heir professiona l career. Lord Kenyon, entitled Holyrod,

* Sat. I., 9, 10. In Avaros.

(who afterwards became justice of the king's bench,) a rising young man, in his forty-seventh year! Chief Justice Saunders was a beggar boy, if not a parish foundling. Sir Francis Pemberton was thrown into jail for debt, and there studied law. Sir Henry Martin, admiralty judge, used jocularly to say, that had his father left him fourscore instead of forty pounds per annum, he would never have plied his book for a livelihood. Lord Mansfield was, at first, in very bad circumstances, and owed his introduction into business to the accident of his senior counsel having a fit in court, which threw the whole management of the case upon his shoulders; business then poured in, so that he never knew, as he said, the difference between an income of almost nothing and one of many thousand pounds. Somers, Cowper, Talbird, Yorke, and Camden, overcame a thousand obstacles—

> "Sped their bright way to glory's chair,
> And worthily filled it."

Lord Kenyon for a long time struggled with many an adverse fortune. The companions with whom he associated himself at this period were Dunning and Horne Tooke. In vacation they dined together. "As to Dunning and myself," Tooke used afterwards to say, "we were generous, for we gave the girl who waited a penny apiece, but Kenyon rewarded her with a half-penny or a promise."

Lord Chancellor Thurlow, who, although great in many respects, was withal no amiable character, was accustomed in after life to boast of his humble original. "In the county of Suffolk there were two families of the same name; from the one sprung Thurlow the statesman, from the other Thurlow the carrier; I am descended from the last." When reproached by the Duke of Grafton with this plebeian extraction, his retort involved the duke and his friends in the greatest confusion, and is at this day universally admired: "I can say, and will say, that, as a peer of parliament, as speaker of this right honorable house, as keeper of the great seal, as guardian of his majesty's conscience, as lord high chancellor of England, nay, even in that character alone in which the noble duke would think it an affront to be considered, as a MAN, I am at this moment as respectable, I beg leave to add, I am at this time as much respected, as the proudest peer I now look down upon."

The accidental visit of an old nobleman to his native village, and disposition to be entertained with a few hours social intercourse, first introduced Dunning to the law. For the first three years his fees did not reach in all 100 guineas;

the fourth brought him £1,000; and the average afterwards was from 8 to £10,000. He left a fortune at his death of £150,000.

Mr. Scott (Lord Eldon, eloped at an early age with a young lady, and not a little straitened himself in a pecuniary way. The produce of his first two years' practice was by no means encouraging—a single half guinea, which he generously presented to his wife for pocket money.

The list could be extended to considerable length were we to introduce the many remarkable instances of the same kind to be found in our country.

The incorruptible integrity of the English bench has furnished a perpetual theme for admiration and highest eulogy, and certain it is that no class of men in the world have ever exhibited more purity, integrity, and learning—more uniform devotion to truth and justice—more passionate devotion to country—more of the highest and noblest attributes of human nature—than the English judges. Seldom have there existed, for several hundred years, any exceptions to this bright and glorious pre-eminence, and the heritage which has been left by these elevated characters must forever be prized by their countrymen. Well may every lawyer look up with veneration to these shining examples of unsullied glory and distinction, emulate their virtues, catch from them an inspiration of soul which incites to noble and generous effort—an enthusiasm which soars upward to the sky.

If we consider the chancellors, from the earliest periods down almost to the present day, what confirmation have we of these views—how few the exceptions! Can any one conceive the time unprofitably employed which traces out their history?

Sir Thomas More—the friend of Erasmus—vir doctrina et probitate spectabilis! Who does not admire the memory of More! An epigram of the times has celebrated the capacity and dispatch which characterized his administration:

> "When More some years had chancellor been,
> No *more* suits did remain;
> The same shall never *more* be seen
> Till More come back again."

Ellesmere—the great name which was brought into conflict with Coke's, during much of that long and bitter conflict which was carried on between the courts of law and chancery.

Francis Bacon, Lord Verulam, whose legal abilities, however great they may have been, were so far eclipsed by his

extraordinary genius and wonderful achievements in literature and science, that he is considered the father of everything noble in philosophy. The lawyer yields to the philosopher; but the lawyer existed and had been great, were it not for the contrast. It is a grand mistake which detracts from the legal knowledge of Bacon, and one that men are prone to make, as we have seen in our own day.* Queen Elizabeth fell into it when she remarked that "Bacon had a great wit and much learning, but that in the law he could show to the uttermost of his knowledge, and was not deep." Even upon this sun may there be found spots dark enough—too dark to give us any pleasure in contemplating them.

John Williams. Before the time of More the chancery had been occupied by ecclesiastics. On the malversation of Bacon the original order was restored, and the great seal entrusted to Williams, who, though little informed in legal matters, made in the result no indifferent chancellor; his diligence and application were untiring, and his integrity and honor beyond all suspicion. The following anecdote happily illustrates the latter. On one occasion, being told that a certain individual, who had a suit in chancery, was famous for building churches, the lord keeper remarked, "And the same shall not fare the worse for building of churches." The gentleman, hearing of this observation, sent him forthwith a present from his orchard and poultry yard. "Nay, carry them back, George," said the keeper, "and tell your friend he shall not fare the better for sending of presents."

Lord Coventry, of whom little is recorded.

Lord Commissioner Whitlock. His character was too much tinged by the stormy politics of the times, and his own officious participation in them, to entitle him to many high laudits.

Clarendon. A name justly celebrated, and the author of the immortal "History of the Rebellion."

Earl of Nottingham. The Duke of Wharton draws his portrait with a bold hand, and succeeding ages have borne testimony to the justness of its delineations. "I would seat him on his throne, with a ray of glory about his head, his ermine without spot or blemish, his balance in his right hand, mercy on his left, splendor and brightness at his feet, and his tongue dispensing truth, goodness, virtue, and justice to mankind." He is represented by Blackstone,

* The late lamented Legaré suffered in this respect. Men could not believe that he who had exhausted so many fields of learning, and attained to such elegant scholarship, was at the same time an eminent jurist; but the egregious mistake was corrected in that eloquent tribute which emanated from the walls of Harvard College.

Story, and others, as the father of the present system of chancery.

Francis, Lord Guilford. As a jurist we do not hear him spoken of in terms of very high admiration. His life is written to our hands by that original and eccentric brother of his, Roger North; and Mr. Roscoe says of the production, that "there does not exist in the English literature a more singular and characteristic piece of biography. The stores of anecdote, the indescribable *naivété* of the style, confer a peculiarly interesting character upon the book."

George, Lord Jefferies. Happy, could such a name be blotted out forever from the memory of men! But there it stands, and there it will remain, in all its blackness and deformity. Truth compels its insertion here; and, if it afford no pleasure, nor call up one agreeable emotion, something of instruction may at least be derived. To the glory of the bar be it spoken that Jeffries was never educated a lawyer—his iniquity and craft worked him into notice, and we find him sold, at an early period, to a tyrannical prince, the fit instrument of his every enormity. James himself, in his better moments, could not but start back with horror as his favorite so far outstripped him in the career of guilt. In the State trials for treason, when chief justice of the king's bench, all the black malignity of his nature was displayed, his levity, his haste, his disregard of all law and reason, his perversion of evidence, his zeal to condemn at all events, even unheard, his wicked delight in swelling the trophies of the "Western Campaign," as he entitled his circuit after the insurrection of Monmouth; these are the melancholy evidences afforded us of what the worst passions of human nature are capable when roused into action. Burke says that "his crimes have caused his memory to stink in the nostrils of all succeeding ages." Burnet that "he was scandalously vicious, and was drunk every day, besides a drunkenness of fury in his temper that looked like enthusiasm." We must refer to the State Trials to know the rest, particularly Lord Russel's, Mrs. Lisles, the venerable Baxter, and Algernon Sidney. He addressed Baxter from his judicial seat, "Richard, thou art an old fellow and old knave, and thou hast written books enough to load a cart; but, by the grace of Almighty God, I will crush you." This career of guilt was not destined to impunity. On the approach of the Prince of Orange, everywhere were heard the cries of vengeance! justice! justice! and the miserable wretch, in his vain endeavor to escape, was arrested and thrown into the Tower, where he died of the wounds received at the hands of an incensed populace.

Lord Somers. The delineation of his character, by Horace Walpole, is strikingly grand and elevated. "He was one of those divine men who, like a chapel in a palace, remain unprofaned, while all the rest is tyranny, corruption, and folly." To which Garth accedes,

> "Somers doth sickening equity restore,
> And helpless orphans now need weep no more.

Hardwicke. For twenty years this light of jurisprudence shed its broad beams upon the courts. Judge Story celebrates his administration: "This great judge presided in the court of chancery during the period of twenty years; and his numerous decisions evince the most thorough learning, the most exquisite skill, and the most elegant juridical analysis. There reigns throughout all of them a spirit of conscientious and discriminating equity, a sound and enlightened judgment, as rare as it is persuasive, and a power of illustration from analogous topics of the law as copious as it is exact and edifying. Few judges have left behind them a reputation more bright and enduring; few have had so favorable an opportunity of conferring lasting benefits upon the jurisprudence of their country; and still fewer have improved it by so large, so various, and important contributions." If he had a conspicuous fault, it was avarice, of which many ludicrous anecdotes are related.*

Northington, so famed for eccentricity. Camden, the noble advocate of liberty, the incorruptible, hardy, and zealous opponent of "general warrants," the friend of America. Bathurst, the jolly old lord, and honest Loughborough, bring us down to the times of—

Lord Erskine. One of the most remarkable characters that England ever produced. A great wit, a profound lawyer, an eloquent man, a statesman, there was no sphere in which he did not shine with surprising lustre. Called to preside over the chancery, from a practice confined exclusively to the courts of common law, his great genius was not wanting to itself. The following tribute from an eminent contemporary will evidence this: "His character exalts the character of the English barrister beyond what it had in former times attained, and holds out an illustrious instance of patriotism and independence, united with the highest legal eminence, and crowned, in the worst times, with the most ample success." His speeches are exemplars of excellence, and merit at all hands the most careful study. Mr. Roscoe has perhaps exhibited higher evidences of his

* For sketches of Lord Hardwicke, Lord Camden, Lord Thurlow, Lord Rosslyn, Sir William Grant, &c., consult Mr. Charles Butler's Reminiscences.

own skill in drawing this character than in drawing any other in his volumes.

Eldon. He presided in chancery until 1827. His conspicuous defect was tardiness and delay, which, however, grew out of an over anxiety to be just; business, to a vast amount, in consequence, accumulated upon his hands, much of which was of twenty years standing; he would never be content with what the advocates told him, but must needs give the most untiring study to all the particulars of every case before him. On being reproached with this, "Had I given judgment," said he, "on such statements and information only as I have received from counsel on both sides, I should have disposed of numerous estates to persons who have no more title to them than I have, and I feel a comfort in that thought, a comfort which all the observations on my conduct can never rob me of."

Let us now pass over to the law courts, and hurriedly call to memory some of those by whom they have been distinguished. We begin where the reign of Elizabeth terminates:

Sir Edward Coke. With this great man, who stands so pre-eminent among common lawyers, every one must be familiar. Whatever objections may be raised to his private character, and certain there are many, he was yet one of the most able, high-spirited, and independent judges that ever occupied the bench. The author of the Institutes, the Reports and Commentary upon Lyttleton, his memory cannot be otherwise than venerated, whilst his sturdy opposition to all the high-handed measures of the crown—proclamations, prohibitions, &c.—his bold and unflinching advocacy of liberty, at all hazards, and his devotion to free trade, must endear him to every true patriot. Unfortunately, when we turn from him as a judge, we no longer contemplate the same elevated character. When counsel for the crown, he was violent, overbearing, and even tyrannical, as was evidenced on the trial of Sir Walter Raleigh, and much of that nobleness which had characterized him on the bench seemed to depart, with all fortitude, when his independence lost him his seat. As a writer, his style is characterized by quaintness, pedantry, and conceit; he could even pride himself that in his Institutes were to be found three hundred quotations from Virgil. His derivations of law terms are sometimes so "far-fetched" as to provoke a smile, and there is so little skill in the distributions of the parts of his subject, such endless division and sub-division, so much subtility and refinement, such an exuberance of Latin and Greek, brought

in, as it were, by main force, and withal so much ability and learning displayed, that one is at a loss what to think of the performance, whether to laugh or applaud. Of his contemporary, Bacon, he was no friend or admirer, and the lord chancellor's "expostulation," in which he endeavored to hold up Sir Edward's various faults, "as in a glass," for his inspection, will be remembered. It seems that Bacon once presented him with a copy of the *Novum Organum*, entitled Instauratio Magna, and bearing as a device a ship in full sail, upon which Coke wrote:

Edw. C. ex dono auctoris.
Auctori consilium.
Instaurare paras veterum documenta sophorum,
Instaura leges justiliamque prius.

And over the device:

"It deserveth not to be read in schools,
But to be freighted in the ship of fools."

Sir Matthew Hale. Never has the language of unmingled eulogium been more justly bestowed than upon this eminently great and good man. The purity of his private life, his piety, his love of justice, his accurate aquaintance with law, are displayed in every page of his biography. The friendship and confidence of Richard Baxter, which he enjoyed for a long course of years, the theological works composed and published by him, the plan of life which he laid out at an early period and adhered to, all confess the depth and fervor of his piety. We learn the character of his justice from the various anecdotes related of him, among others the anecdote of his paying, in court, for a present of venison, sent by a party interested, and returning a donation of sugar loaves. A disposition to side with the poor against the rich and powerful was his fault, and it once completely entrapped him. A courtier, having a cause to be tried, procured a person to go to the chief justice, as from the king, and speak in favor of his adversary. He gained his point, "for Sir Matthew could never think very well of any one that came so unduly recommended." The part which he took in the trial of witches has afforded grounds of exception to his character—but then the fashion of the times ought to be taken into consideration. The "Pleas of the Crown" are the great monument of his learning and ability.

Lord Thurlow. Although possessed of giant abilities, there is little in his character worthy of admiration. His meanness, vulgarity, and duplicity, have been severely handled. He rose from the lowest rank to the highest offices in the kingdom. As lord chancellor we have had occasion to mention him in another place.

Sir Samuel Romily. If it be no impiety to mention in the same breath the companion and friend of Howard, the advocate of freedom and humanity, the strenuous and unyielding reformer of the criminal code, the man of tenderest sensibility and affection, we cannot refrain from introducing him into this catalogue, although he was never raised to the bench. His life, letters, and diary, edited by his sons, have been lately presented to the American public.

Lord Mansfield. We have already had occasion to mention this name more than once, occupying, as it does, such an elevated niche in the temple of fame, and winning the glory of so many high achievements. He was the first English judge that understood, appreciated, and applied, the determinations of the civil law to the endless variety of cases arising in Westminster Hall. In this law he was profoundly versed, and perhaps the tincture which his mind received from some of its worst principles will account for that opposition to juries, and adherence to arbitrary crown measures, which drew down upon his head the denunciations of Junius. For popularity he professed an entire contempt, and displayed it in his trials of Wilkes,* in his opposition to the American Revolution, in his little friendship for Pitt and Camden, and reaped the full reward, in the conflagration of his splendid mansion, from the fury of a London mob.

Sir William Jones. We are not following the order of time. As a lawyer, his estimable work upon "Bailments," and his magnificent design of a "Digest of Hindu and Mahomedan Law," will sufficiently speak. As a judge, his administration in India gave universal satisfaction. But it is as a scholar, a linguist, a man of letters, that we are chiefly accustomed to speak of him; and certain it is, that few human beings have ever attained to such proficiency in the critical knowledge and understanding of so many and so great variety of languages. The following plan is by himself:

Resolved to learn no more *rudiments* of any kind, but to perfect myself in—

* There is much grandeur of sentiment in the following passage from his judgment in this case: "I wish popularity, but it is that popularity which follows—not that which is run after. I will not do that which my conscience tells me is wrong, upon this occasion, to gain the huzzas of thousands, or the daily praise of all the papers which come from the press. I will not avoid doing what I think is right, though it should draw on me the whole artillery of libels, all that falsehood and malice can invent, or the credulity of a deluded populace can swallow. I can say with a great magistrate, upon an occasion and under circumstances not unlike, 'Ego hoc animo, semper fui, ut invidiam virtute partam, gloriam, haud infamiam, putarem!'"

First: Twelve languages, as the *means* of acquiring accurate knowledge of

I. History.

1. Man. 2. Nature.

II. Arts.

1. Rhetoric. 2. Poetry. 3. Painting. 4. Music.

III. Sciences.

1. Law. 2. Mathematics. 3. Dialectics.

N. B. Every species of human knowledge may be reduced to one or other of these divisions. Even law belongs partly to the history of man, partly, as a science, to dialectics.

His acquaintance was critical with eight languages: English, Latin, French, Italian, Greek, Arabic, Persian, and Sanscrit. Eight were studied less perfectly: Spanish, Portuguese, Runic, German, Hebrew, Bengali, Hindu, and Turkish; and upon twelve others he had bestowed considerable attention: Tibetian, Pali, Phalari, Dieri, Russian, Syriac, Ethiopic, Coptic, Welsh, Swedish, Dutch, and Chinese.

Sir Michael Foster, author of the "Crown Law."

Sir John Holt, the upright judge and accomplished lawyer. In early life he gave himself up to every species of dissipation. When chief justice of England, he was called upon to try and condemn one of the boon companions of his youth. Visiting him in prison, to inquire after their quondam associates, "Ah! my lord," said the criminal, "they are all hanged except your lordship and myself." At the assizes, he tried an old woman accused of witchcraft, being possessed, as it was said, of a charm for curing, or disseminating, disease amongst cattle. The chief justice desired to see the redoubted charm, and to his amazement discovered that it was the identical scrip with which, on one of his wild excursions forty years before, he had deceived her. The old lady, it seemed, at that time had kept an inn; Holt was a guest, and, having squandered all his resources by dissipation, expected soon to be ejected. Having a ready invention, he saved himself. The landlady's daughter was affected with ague. Holt scribbled upon paper, and carefully bound it on her hand. By a happy coincidence, in a few days the disorder ceased; the old woman looked upon him as a kind of magician—would take no pay, of course, for anything he had had, but preserved the wonderful paper, with which she was said afterwards to have performed extraordinary works. The chief justice related the anecdote to the court, and the old wretch was at once acquitted.

Lord Kenyon. Though remarkable for a violent, petulant disposition, and extreme parsimony, he was at the same time most severe and rigid in the administration of justice. A hatred of vice, and an aversion to the least appearance of

profanity, was constitutional with him; and the utmost goodness of heart was ever evidenced in his conduct. Compelled to sentence a poor woman to death, whom he intended to recommend for mercy, she fainted as he began. "Good woman, good woman," exclaimed the judge, "I don't mean to hang you, I don't mean to hang you—will nobody tell her I don't mean to hang her?"

Sir Eardly Wilmot, whose modesty and love of retirement was so great that all, even the greatest office, was with difficulty forced upon him; he refused peremptorily to accept the great seal.

Mr. Justice Buller, Sir James Mansfield, Lords Ellenborough and Tenterden, names sufficiently high and venerated. The last words of Tenterden were characteristic, and exhibit the ruling passion strong in death—"Gentlemen of the jury, you are discharged." He then fell back upon his bed, and almost immediately expired. Nor can we omit mention of Gascoigne, who imprisoned the Prince of Wales for a contempt; of David Jenkins, who, in the discharge of his duty, being threatened with the Tower, nobly exclaimed, "I will go there with Magna Charta under one arm and the Bible under the other!"—of Selden and Blackstone,* the great legal antiquarians.†

In the time of Alfred the Great, it would appear that the corruption of judges was proverbial, for we are told that forty-four were tried and executed during the reign of that wise and politic prince. It is also said that, upon rigid investigation, the English Justinian, Edward, could find but two, of all his judges, free from the foulest stains—Johannes de Mettingham and Elias de Beckingham. He fined and banished Sir Thomas Wayland and Sir Ralph Hengham, executed Thorpe and de Stratton, chiefs of the king's bench and exchequer. But these were barbarous times, and when we have mentioned a Scroggs, a Macklesfield, and that abominable monster Jefferies, all of more modern date, the black catalogue will be finished. At the bar, Epsom and Dudley, the iniquitous and corrupt minions of Henry VII., stand almost alone in the naked deformity of their characters. Since the passage of the act 12 William III., which

* Junius says, if you wish to know what justice is, you may go to Sir William's book; but to know what injustice is, you must become acquainted with the learned judge himself. Horne Tooke thought the Commentaries "a good gentleman's law book, clear, but not deep."

† We had intended a sketch of some of the great lawyers of our own country—the Marshalls, Kents, Storys, etc.—but the length of the present article is already too great. At a future day we may devote a few pages to the subject. The Carolina bar, in particular, affords a rich fund of anecdote, within our immediate reach.

changed the judicial tenure from *durante bene placito* into *de bene gesserint*, the most powerful inducements to evil have been removed, and the judges now, in the independence of their character, have as little to fear from the arbitrary requisitions of the government as they have from the rash and inconsiderate menaces of the populace.* Perhaps we cannot better conclude this division of our subject than with the words of Chancellor Kent: "Every person well acquainted with the contents of the English reports, must have been struck with the unbending and lofty morals with which the courts were inspired. If we were to go back to the iron times of the Tudors, and follow judicial history down, we should find the higher courts of civil judicature generally, and with rare exceptions, presenting the image of the sanctity of a temple, where truth and justice seem to be enthroned and personified in their decrees."

SOUTH CAROLINA—HER AGRICULTURE, ETC.

The following was prepared by a gentleman of South Carolina, for the Carolinian. It is an able and valuable essay. The editor of the Review, to whom reference is made as the person who prepared the Census Compendium, can only say, that had all the tables which were desirable been included in that work, it would have reached some two thousand pages, instead of the four hundred to which it was limited by act of Congress. The *material* was not deficient.

If the actual condition of the agriculture and productive industry of the State of South Carolina be a subject of interest to her people, it scarcely needs any apology for presenting the following table, intended to combine in one general statement, more fully than has hitherto been done, all the most important elements in relation to population, capital, and production, so as to present a comparative view of these between the different districts of the State. The Compendium of the United States Census, lately published by order of Congress, has done much towards furnishing materials for this purpose; but among all the elaborate tables set forth in this work there is not one which combines, in a single view, all the most material facts in relation to the matters above mentioned; while many important comparative views of great interest, and many facts and results important to be known,

* From the following list, it will appear that the boasted independence of the judges is not altogether attained in this country. In Maine, New Hampshire, and Connecticut, they hold their seats during good behavior, or until seventy years of age; Missouri, sxity-five, and perhaps South Carolina soon; New York sixty; Tennessee, they hold eight or twelve years; New Jersey, Ohio, Michigan, and Indiana, seven years; Alabama and Mississippi, six years; Georgia, three years; Vermont and Rhode Island, annually elected!

are entirely omitted. This may be accounted for, in part, from the schedules ordered by Congress being incomplete, and insufficient to meet all the subjects of inquiry interesting to the people of each State, separately considered; and from the great additional time and labor—probably beyond what were at the command of the census bureau, to construct complete tables of all these matters, for each State of the Union.

The first prominent defect in the schedules was, that there were no instructions to procure an estimate of the value, in detail, of the various agricultural productions of each State. This might have been done, perhaps more satisfactorily, by competent persons in the proper office at Washington; and while we find in the census a table exhibiting an estimate of the aggregate value of each agricultural production in all the States, it is to be regretted that a column showing the value in each district had not been added. This is the only shape in which estimates of value are really useful. Every person desiring such information is left to reach it by his own estimates, at great expense of time and labor. Another great defect was, that there was no information collected as to the actual quantity of land cultivated in the crops of each kind of agricultural produce, particularly of the main and leading objects of culture. No estimate can arrive at a reasonable approximation to the truth in this particular, and thus placing it beyond the reach of any one to institute comparative views in relation to fertility of soil or improvements in tillage. Neither is there anything to show the advance of population in the different districts of the State, beyond a single decade, by which we can ascertain the comparative increase for longer periods of time, and note the changes in the comparative condition of the districts in such additional periods of time. Not only is there no table to show the value of the productive industry of the different States and districts, in the aggregate, or *per capita*, but nothing to throw any light upon the profits of agriculture, in the compound ratio of labor and land. These, with many other objects of inquiry, it is to be hoped, will command the attention of Congress and the legislature of the State, so as to enable those who may be hereafter entrusted with the duty of collecting and preparing tables for general use to perform it in a satisfactory manner.

In a State whose interests and resources are peculiarly and almost exclusively agricultural, it is strange that no effort has been made by its legislature to establish a statistical bureau of its own, even in relation to this one great leading

interest. In this way a vast fund of information of the utmost importance to the welfare of the State, might be collected at no great expense by a moderate additional compensation to a portion of her public servants necessarily employed in other departments of public duty. By fixing the time half way between the United States census decades, we would realize the benefit of a census every five years. The collection of valuable statistical facts and information, and classifying, combining, and arranging them in tables so constructed as to exhibit results for a given number of years, or series of years, is an object of the utmost importance to every State, and not overlooked or neglected by enlightened States in any part of the world.

Hitherto we have been obliged to remain ignorant of the value of our productive industry; and, instead of regarding this as the true exponent of our wealth, power, and resources —as the measure of our prosperity, of our advance in civilization, of our means of defence and security—we appear to measure the wealth of the State only by the number of negroes which our citizens return in their tax lists, and the number of acres of land embraced in the broomsedge and pine-thicket baronies, which everywhere salute the eye of the traveller. While really behind nearly all the States of our confederacy, as respects the prosperous condition of our agriculture, we seemed satisfied to remain in ignorance of its general results as a source of income, and to imagine its condition as amongst the most flourishing. Our census tables show an advance in our population of only twelve per cent. in the last decade, while some of our districts, formerly among the most fertile and prosperous, have made no advance in the same time, and some others none in the last half century. While much the largest portion of the natural increase is annually disappearing to swell the tide of emigration to new States, we have not yet to begin an inquiry into the cause. In that great staple of subsistence, Indian corn, we have sunk to the low average of eleven bushels per acre; while other longer settled States, with a naturally less fertile soil, have arisen to an average of from thirty to forty bushels per acre. These are striking facts, which demand reflection among those whose opinions and authority control the destinies of the State.

With the view of supplying these defects in the State census, and of combining in one view a fuller and more satisfactory comparative statement of our advance in population, production, and wealth, the compiler of the present

table hopes he may be excused for this his humble attempt to aid in the accomplishment of this desirable purpose.

In order to present these views in the most acceptable and satisfactory way, it has been thought best to divide the State for this purpose into four geographical sections, corresponding to the geological character of its soil and surface, and distinguishable to a certain extent by a difference in the crops cultivated, and in some measure by the system of culture. 1. The section comprising the districts bordering on the sea-coast, or reached in some parts of them by tide water, and producing mostly rice and long staple cotton as a market crop. 2. The alluvial districts of the middle country lying between the districts on the coast and the falls of the rivers, producing almost exclusively provisions, and, for a market crop, short staple cotton. 3. The districts of the upper country, so called, lying between the falls of the rivers and the mountain range of districts, producing mostly the same crops as the second section, with a larger amount of small grain. 4. The districts composing the mountain range, not so well adapted to the culture of cotton as the two last-named sections, but capable of producing in abundance corn, wheat, oats, and other grain, with tobacco.

It will be perceived that the 2d, 7th, 8th, 9th, and 11th columns of the table have been copied from the Compendium of the United States Census, and have furnished the basis of all the calculations in the other columns of the table, except the valuations in the 14th and 15th columns, from which and from the 11th column, the compound ratios of the 16th or last column have been made up. With respect to the estimates of value—the part of the table involving the most labor and difficulty—it is proper that some explanation should be given. With the exception of a few leading articles constituting the largest amounts, the value has been estimated at the average prices which ruled in some of our largest commercial cities at the close of the year 1850, and the first of the year following. If lower rates prevailed in some instances in the interior, the difference was mainly made up of the cost of transportation to market; and as this was mostly earned by the teams of the producers themselves, or the railroads running through the different sections, it was conceived that this mode of estimating the value was less liable to objection than any other deemed practicable. But as respects the leading articles above alluded to, it was believed that it would be generally more satisfactory, and obtain fairer results, to assume an average price, based on those prevailing from three to five years before and after the month of June, 1850

Accordingly, an uniform rate of valuation for these commodities has been adopted as follows: Indian corn, 75 cents per bushel; wheat, $1 25 per bushel; cotton, 9 cents per pound, average; tobacco, 7 cents per pound, average; rice in the rough, (being returned in this way,) 2½ cents per pound; oats, 50 cents per bushel; hay, $15 per ton; potatoes, sweet, 25 cents per bushel. These prices have been adopted, also, as presenting fair relative rates of value; and it is confidently believed that no scale of prices, though varying considerably from these rates, would have materially varied the comparative results, provided the relative value had been preserved with equal fairness.

The number of square miles in the different districts or States in the first column have been calculated from the number of acres of land returned in each district; and due allowance being made for the space occupied by rivers, bays, and other bodies of water not included in land measurement, there will be found a sufficient approximation to the estimate which is deduced from measuring the surface of the map. The ratio of increase for the last half century, as made up in the sixth column, includes only those districts which were organized previous to 1800; while those marked with an asterisk in the same column were subsequently organized, and show the ratio of increase only for the last forty years, or from 1810.

The statement of productive industry, *per capita*, in the compound ratio of labor and land, as set forth in the last column—containing results of the highest interest of any in the table—have been deduced by assuming that the capital absorbed in lands, improvements, and implements, is equal to one-half of the actual capital, in farm, plantation, or other labor, however employed; or, in other words, that it forms one-third of the entire agricultural capital. Though this may possibly be somewhat above the real average, it is believed to be nearer the truth than any other ratio that can be conveniently employed. This estimate of capital in labor has been computed, first, by taking one-half the number of the slave and other colored population, and deducting therefrom ten per cent. for those engaged in employments not represented—making in round numbers 170,000 effective laborers; and in like manner, by taking one-half the number of the white population, and deducting therefrom twenty per cent. for those engaged in employments, or professions, not represented, or in no productive employment, and computed, however employed, to be equivalent to 110,000 effective laborers. These together, making 280,000, are again com-

puted as equivalent to or representing the capital employed in that number of average field hands, estimated at an average value of $650 each. Thus, according to this computation, we have a capital of about $182,000,000 in labor, and of about $87,000,000 in lands, improvements, and implements, exclusive of real estate in cities, towns, and villages, as set forth in the table.

It is not presumed that the results in the above computations, or, indeed, in any part of the following table, are to be received as rigorously correct, nor is such accuracy ever possible in statistical results. All that can be expected is an approximation to what is sought. To expect absolute truth would be unreasonable, and those insisting on it would soon find it necessary to abandon their research as impracticable. It is sufficient for all useful purposes, if we can arrive at an approximation to the truth; and we may, at the same time, console ourselves with the absolute certainty that these approximations are much nearer the real truth than is generally imagined. This could be easily demonstrated and verified in a vast majority of the cases.

Comparative view of the population, landed capital, and productive industry of South Carolina, 1790—1850.

Geographical divisions.	DISTRICTS.	Sq. miles.	Aggregate pop. 1850.	Per square mile.	Per centage slave.	Ratio of inc. 1840 to 1850	Ratio of inc. 1790 to 1850	No. farms.	Acres of improved land.	Acres of unimprov'd land.	Average acres to farm.	Val. lands, implements and improvements	Ave. value of lands per acre.	Val. landed capital per head.	Total value productive industry.	Amount per head, white, col'd & slave	Am. pr head in ratio of labor & land
Mountain range of districts.	Anderson	720	21,475	29	35.00	16.44	{ 91.87	1986	178,455	282,495	237	$2,559,488	$5 55	$119	$1,699,256	$79 12	$82 44
	Pickens	887	16,904	18	21.76	17.74		1231	93,206	474,756	461	1,708,686	3 00	101	907,030	53 65	58 26
	Greenville	578	20,156	35	33.19	13.51	75.27	1068	130,727	239,730	347	2,102,038	5 67	104	1,007,457	50 08	54 02
	Spartanburg	848	26,400	30	30.41	11.54	117.85	1555	207,666	354,281	361	2,792,626	4 97	106	1,472,862	55 80	59 20
	York	682	19,433	29	41.20	.27	89.62	1252	133,596	283,924	333	2,798,898	6 70	144	1,268,710	65 28	64 02
	Average	....	.....	28	32.31	11.90	93.51	....	148,730	327,037	348	.....	5 18	115	.....	60 78	63 59
Districts between the mountain range and the falls of the rivers.	Abbeville	996	32,318	32	59.60	13.92	138.46	1814	212,628	425,031	351	5,006,610	7 85	154	2,019,020	62 50	59 76
	Chesterfield	525	18,038	34	54.25	1.08	120.38	844	192,801	143,138	398	7,171,782	9 44	175	1,441,727	79 92	72 31
	Edgefield	1486	39,262	26	57.88	19.51	116.59	2080	263,379	688,042	468	5,654,033	5 94	144	2,937,065	74 62	73 18
	Fairfield	1560	21,404	38	66.07	6.14	112.19	675	121,593	237,263	532	3,289,563	9 17	153	1,359,160	58 80	56 39
	Lancaster	465	10,988	24	45.63	10.91	82.76	580	100,728	196,937	513	1,568,576	5 27	143	814,688	74 15	72 90
	Laurens	727	23,407	32	51.08	8.91	82.74	1603	182,525	252,957	290	4,060,899	8 72	150	2,013,421	86 00	83 08
	Newberry	551	20,143	37	63.99	9.77	112.00	1045	132,952	169,708	338	3,703,458	10 50	188	1,692,167	84 50	74 80
	Union	622	19,852	32	52.34	4.29	93.92	869	162,787	235,363	458	3,161,665	7 94	159	1,460,559	73 59	69 47
	Average	....	.....	31	56.23	9.32	107.38	....	177,424	297,304	418	.....	8 10	157	.....	74 26	70 23
Districts of middle country between falls of rivers and tide water districts.	Barnwell	1804	26,608	15	52.23	23.92	260.73	1558	197,676	957,393	741	2,877,750	2 48	108	1,420,461	57 14	61 07
	Chester	459	10,790	24	36.09	25.78	*93.85	548	52,511	241,317	536	903,477	3 07	84	581,518	53 90	60 85
	Darlington	1037	16,830	16	59.66	13.54	*86.62	857	123,162	540,408	762	2,935,880	4 42	174	1,162,487	69 07	62 65
	Kershaw	559	14,473	26	66.11	17.84	97.04	883	61,102	296,960	935	1,443,868	4 03	99	777,936	53 75	58 64
	Lexington	807	12,930	16	42.19	6.77	*94.68	837	70,730	437,841	607	1,075,318	2 11	81	638,247	57 09	64 80
	Marlboro'	453	10,789	24	51.90	28.31	*117.26	621	85,395	204,505	467	1,987,618	6 85	184	846,662	78 47	69 27
	Orangeburg	1429	23,582	16	65.23	27.39	49.29	1206	181,393	782,681	758	3,176,806	3 47	134	1,188,922	50 41	53 63
	Richland	508	20,243	‡39	80.84	23.45	133.50	543	82,426	235,695	599	2,075,052	6 38	‖145	1,077,585	53 23	52 07
	Sumter	1372	33,220	24	70.00	19.48	158.52	1343	226,274	651,935	654	3,749,065	4 26	118	1,797,939	54 12	57 91
	Average	....	.....	22	57.14	20.83	120.65	....	120,852	477,637	673	.....	4 12	125	.....	58 57	60 10
Districts lying on the seaboard or touched by tide water.	Beaufort	1448	38,805	26	83.19	8.53	89.95	842	239,289	687,469	1100	5,601,350	6 04	144	2,607,087	67 17	65 87
	Charleston	1281	40,859	32	87.55	1.43	10.40	682	183,236	636,495	1202	5,903,220	7 20	‖144	‡3,166,847	43 08	42 25
		....	†42,985	..	.....	....	†109.96	....	.....	.....	....	.....	....	....	.....	†35 31	.....
	Colleton	1178	28,466	24	75.06	11.42	14.30	888	121,475	632,458	849	3,627,534	4 81	127	1,861,231	65 38	66 84
	Georgetown	574	20,647	36	89.22	12.98	20.60	550	49,609	318,514	669	5,704,920	15 49	275	1,410,350	68 37	45 11
	Horry	792	7,646	10	27.13	32.84	*75.81	731	33,664	472,971	693	485,440	76	54	435,083	44 43	53 37
	Marion	1213	17,407	14	43.20	24.93	253.00	1374	124,306	652,342	565	2,680,544	3 45	154	976,308	56 08	54 36
	Williamsburg	784	12,447	15	58.35	20.52	*81.16	454	70,860	482,440	1107	861,588	1 12	69	478,705	38 46	44 79
	Average	....	.....	22	67.47	16.09	72.00	....	117,419	547,529	884	.....	5 77	168	.....	52 28	58 28

*Not separately organized till 1810. Increase for last 40 years. †The city of Charleston. ‡Including Columbia. ‖Including city. ‖Charleston and Columbia not included.

From the general view of the present actual condition of the agricultural interest of South Carolina, we may safely assume that the greatest density of population will always be found on those lands naturally the most fertile which are adapted to cultivation, and which can be occupied in health and safety until the limit of easiest adequate subsistence is passed. The ratio of increase in our population is controlled by the same efficient cause until after the above limit is reached, and then our population seems to seek, as we would naturally suppose, the next most fertile land available, until the same limit is again passed, and soon until all the openings are filled. The course of population in this State for the last half century fully illustrates this view, and will be made manifest by an examination of the fifth and sixth columns of the table. And though other counteracting and controlling causes might occur to change the natural course in an agricultural State, they have not yet arisen with us in any perceptible degree.

Under the existing state of our agriculture, our population, as respects density, would seem already to have nearly reached its maximum limits in those districts naturally the most fertile.

From these it now either seeks lands in other States, or in those districts containing cheaper and fresh or less exhausted lands, though naturally of inferior quality, until the population in these reaches the limit of adequate profit or subsistence, when it is probable it will be subjected to the influence of those natural checks existing in all our populous countries, or resort to other pursuits or enterprises to obtain adequate subsistence and profit. At the present time Charleston, Beaufort, Georgetown, Lexington, Sumter, Kershaw, Fairfield, Chester, and York would seem to have nearly or quite reached the above limit, and afford an illustration of the views here expressed.

The density of the slave population appears to have increased under joint influence of facility of access to a market, and the quantity of lands best adapted to the production of cotton and rice. Charleston, Georgetown, Colleton, Beaufort, Orangeburg, Sumter, Richland, Kershaw, Darlington, Fairfield, Newberry, Edgefield, and Abbeville furnish illustrations.

As regards lands, farms would appear generally to increase in size in the direct ratio of the preponderance of the slave population, when the comparison in this respect is made between the districts composing the same geographical range, noting, however, Marlboro', Newberry, and Abbeville as ex-

ceptions. Accordingly, from the mountains to the seaboard, the average size of farms increase in each successive range. As yet neither on the seaboard nor in the mountain range of districts can it be known from the returns whether the size of farms affect either favorably or unfavorably the amount of production in its general results; but in the upper and middle country range of districts, with the exception of Edgefield and Abbeville in the former, and Richland in the latter range, the districts with smaller average farms stand highest in the scale of production.

The proportion of improved to unimproved land regularly increases, as we would naturally conclude, in nearly the direct ratio of production in all the districts, when compared in sections of the same geographical range. The average amount of improved land per head, from the seaboard to the mountains, is as follows: 4.9, 6.4, 7.9, and 7 acres in each range respectively.

The value of lands or farms per acre, as estimated by the proprietors themselves, is highest in the upper country range, next in the range on the seacoast, third in the mountain range, and lastly in the middle country range.

South Carolina, being strictly an agricultural State, we might safely assume that production will always be found in proportion to fertility of soil, all other circumstances being the same, yet it is a remarkable fact that the value of production is not in proportion to the estimated value of the lands in any section of the State, as a general rule. Nor does the amount of the productive industry in any part of the State appear to depend mainly on the extent to which the staple commodities of rice and cotton are cultivated, nor does it appear to increase in proportion to the average amount of individual capital in labor and land employed, but rather found in an inverse ratio to most cases.

Under like circumstances, it would seem that in most parts of South Carolina grain and other provisions is a more profitable crop than cotton or rice, as now cultivated. Though it may be difficult to establish this position as strictly true, numerous comparisons, from the returns, appear to establish the conclusion as a fair one.

As regards the comparative value or efficiency of slave labor, it will be found that in the production of rice, as a market crop, it is the only description of labor hitherto found available; and here the superiority of the negro stands undisputed. That in the production of cotton, the quantity produced, as a general rule, is found greatest in those districts having the greatest preponderance of slave population;

but to this general rule there are exceptions in the largest cotton-growing districts—even where the comparison is limited to the same geographical range.

After a careful consideration of the facts which have been set forth in the table, several important general conclusions, in relation to the present and future prospects of the State, necessarily force themselves upon our attention. Among these are:

1. That the condition of our agriculture and other industrial pursuits, whether viewed singly in themselves, or in comparison with the same in other States of the Union, are not only discouraging, but exhibit generally a regular decline.

2. That as a natural consequence of this decline, the advance in our population for the last ten years has little exceeded one-third the average increase of the population of the United States in the same time.

3. That the fertility of our lands, as deduced from the amount of the crops produced in the most fertile districts, is undergoing generally a regular process of exhaustion; and that the market value of lands in most of the districts has not advanced in an equal ratio with that of the population in the last thirty years.

4. That the employment of slave labor in agriculture, or other industrial pursuits, is not as profitable as is generally supposed.

The length to which this communication has already been extended forbids an attempt to enlarge upon these conclusions; but a few general remarks may be indulged without incurring, it is hoped, a charge of unnecessary prolixity. The average value of the productive industry of the State does not exceed, as shown in the table, $62 per head of the entire population, omitting the two cities, Charleston and Columbia. Full one-half or more of this amount is consumed on the plantation or farm as necessary means of subsistence, leaving about $31 as the value of cotton and other marketable produce per head. Of this $31, about one-third, upon an average, is required to meet the necessary expenses of clothing, overseer's wages, or superintendence, taxes, physicians' and blacksmith's bills, to say nothing of the expense of renewing the loss of mule and horse-power, and other necessary charges occasionally incurred, leaving a nett profit of only $20 66 per head of the entire population. We have seen that the entire capital of the State in land and labor is, at a moderate estimate, $269,000,000, or full $400 *per capita*, not including in this estimate of value that por-

tion of the population which is a charge upon the active capital. If the natural increase is computed in the account, that of course will in most cases more than cover this part of the expense. This, however, is foreign to the matter in hand. But to this capital of $400 per head must be added a capital of not less than $176 more to cover the regular losses from death and decline in the labor actually employed, which reduces the nett profit on the capital to three and six-tenths per cent. per annum. All the capital in labor is sunk in the average period of about 22 years, and $271, the laboring part of capital, being $12 34 per annum, which is the interest of $176 at 7 per cent. per annum.

Let us now suppose the production per head one hundred dollars, (and it is over this amount in half of the eastern States,) after making the same deductions as above, for subsistence and other expenses, there would still be left a net profit of $59 66 per head. If, under the influence of such a profit from the cultivation of fertile lands, the population were doubled, (as soon it would be,) such lands might, and probably would, be enhanced to five times the present value of the lands of this State, while such a profit would pay more than eight per cent. on the capital thus enhanced, and the lands then be worth more than the same lands now with all the slaves upon them. The large amount of lands now necessarily cultivated to produce a given amount of cotton, corn or other produce being three or four times the quantity necessary, if they were of first quality, and the consequent increased amount of labor expended in cultivation, show conclusively the low condition of our agriculture.

It is too obvious to require extended illustration, that the slow advance of our population mainly arises from the impoverished condition of our lands. As lands become exhausted, the returns are not only small and unremunerating, but crops become uncertain, from casualties and vicissitudes of seasons, subsistence more precarious, and obtained at greater cost. The striking fact that those districts possessing naturally the best soils are almost stationary in population, while districts of inferior soils naturally are filling up, show not only the exhausted state of the soil in the former, but prove that the character of slave labor and the system of cultivation adopted are unfriendly to density of population.

The exhaustion of our lands above alluded to is further evinced by the fact, that in the last thirty years they have remained generally stationary in price, and in many instances have actually declined. Another fact very significant of this truth is the regularly increased amount of lands cultivated in

different crops per hand, particularly in cotton, while the amount produced is proportionably less. This amount now ranges generally from about four and a half to ten acres per head for the entire population.

The opinion frequently put forth, that white labor is unsuited to the agriculture of this State, on account of the heat and other deleterious influences of the climate on the constitution, is not borne out by the facts set forth in the table. That the constitution of the negro is better adapted to endure the heat of our climate and the influence of malaria to which he is exposed than the white man, none will dispute. But this does not arise altogether from difference in natural constitution. The white man—born, raised and habituated to exposure and labor in the field in our climate—will be found equal to the task in any parts of this State free from the influence of the excessive malaria of stagnant waters and putrid exhalations. These are deleterious to the constitution of both, though in a different degree. To illustrate this matter more in detail, let us now glance at the facts set forth in the table. Commencing in the mountain range of districts we find Anderson, with only a fraction over one-third of her population slave or colored, standing by the side of the very highest of any in the State in the list of productive industry, in the compound ratio of labor and land. In the next range below we find Laurens, with only about half her population of slaves, and fewer in proportion to the white than any in the range, with one exception, stands highest in production of any, not only in the range, but of any in the whole State, both in the compound ratio and in the simple ratio of population. In the same range we have Lancaster, with still fewer slaves—only 45 per cent. of the whole population—standing next to Laurens and Newberry, the two highest in the range of productive industry. It will not be pretended that the white labor does not enter largely into the labors of the field in all those districts, but particularly in those named.

Descending still lower to the alluvial range of the middle country, we find Barnwell, Chesterfield, Lexington, and Marlboro', all having a slave population below the average of the range, and yet all standing above the range in production; in Chesterfield the slave population being little over one-third. Coming lastly to the seaboard range let us compare Horry and Georgetown districts, lying side by side on the tide waters of the coast. Here, in Georgetown district, if there be any in the State calculated to exhibit the superiority of the negro in field labor, in a hot climate, it is in this

district. Here, indeed, he seems to flourish, for here he is nearly in entire possession. Here he cultivates the most costly lands—of three times the average value of those of the rest of the State—here culture is upon a grand scale, and order and system are said to prevail—here the white population is only one-tenth, about sufficient by their superior intelligence and capacity to direct and govern the other class, and leave few idlers in their own. Yet, elsewhere, we find the production per head only $45 11 in the compound ratio, and a little above the average in the simple ratio of population. Horry, by the side of the last named district, is thinly populated, by reason of its very poor lands—being estimated by its proprietors at an average of only seventy-six cents per acre—so very forbidding in its general aspects that people of any description labor with great difficulty to find their way there, but a few having done so. Its population at the last census was but little over one-third that of Georgetown district, and only about one-fourth of this population are slaves. Yet the value of the productive industry of Horry is $53 37 per head in the compound ratio, considerably exceeding that of her neighbor, and a little above the average of the whole range, in which the slave population average sixty-seven per cent., and all except Horry engaged in the cultivation of the richest staples of the State. To this we may add, as the crowning glory of Horry, that she has advanced in population in the last decade in a ratio exceeding that of any one of her sister districts in the State, and about equal to that of the average of the United States.

THE HYBRID RACES OF ANIMALS AND MEN.

The following interesting paper was recently read before the Boston Society of Natural History by Dr. Samuel Kneeland, jr., a well known naturalist.

STERILITY OF THE HYBRID RACES, ETC.—The strong mania which has of late years manifested itself for unnatural crosses in birds and quadrupeds, might, if properly investigated, and with an eye to science rather than to gain, lead to many interesting facts bearing upon hybridity. I do not refer to the impositions passed upon a public always ready to be cheated, but to the real, bona fide crossings of allied and remote species.

There was a time when most naturalists believed that all our varieties of domestic stocks, as of cattle, sheep, goats, dogs, fowls, &c., were derived from each genus respectively, from a single wild original; and that man's care, or rather his abuse, had obtained from this the numerous existing varieties. In the present state of our knowledge, we think we are justified in saying that the varieties of cattle, of the

dog, &c., have been produced by the crossing, natural and forced, of several more or less nearly allied species; for instance, who shall dare to decide between the Asiatic buffalo, the European aurochs, and Cuvier's extinct species, as the undoubted wild original of the varieties of our cattle? Whence the necessity of reducing all varieties to a single stock, endowed with great powers of variation, especially when there are several wild species, each equally entitled to be considered the original? It seems to me that the simplest view of the case is the best, viz., that these varieties are the result of the mingling of many species, guided by the wants or caprices of man. In other words, I believe that no one wild original can lay claim to the origination of the varieties of our cattle, of our sheep, of our goats, of our dogs, of our barn-yard fowls; and, to carry the opinion to the legitimate consequence, that no *one* species of man can lay claim to the paternity of all the human varieties.

The reasons for this opinion have been often stated to the society, and need not be repeated here; some new observations will only be added in confirmation. And yet, with this belief in the diversity of origin of our domesticated animals and the human races, it seems to me that hybridity is a true test of specific difference. It is an axiom with some, that different species will not produce fertile offspring, and hence, to them, the fact of the production of such offspring proves that the parents belong to the same species. On the contrary, Dr. Morton makes different *degrees* of hybridity, the offspring being more prolific according to the nearness of the species; thus making hybridity no test of specific difference. Of these two opposite opinions I prefer the first. By a hybrid race, I do not understand an offspring prolific for a few generations, and then gradually dying out, or feebly supported by crossing with the original stocks, but a race capable of propagating itself, without deterioration, without any assistance from any of the parent stocks; such a race, I maintain, the world has never seen, and never will see, under the present laws of animated nature. You may take any part of the animal scale, from a barn-yard monster to a mulatto, and the fact is the same; they cannot hold their own; they must and do return to one or the other primitive stocks, or must die out, unless crossed by the pure originating blood.

The subject which suggested these remarks is the sterility and deterioration of some of the highly-bred varieties of our domestic fowls. It has become quite a general source of complaint by many farmers in this section of the country, who in times past had plenty of eggs, and to spare, from a small number of common fowls, that since the origin of the mania

which has happily been called the "Hen Fever," they have found themselves, with their improved gigantic breeds, unable to procure any thing like their usual supply of eggs from the same number of birds; and that they have not only raised the birds at the expense of several dollars a pound, but have been obliged to buy eggs for family use. This has become such a source of annoyance and pecuniary loss that it deserves to be considered. It is a natural consequence of forcing birds from different countries and of different origins, to propagate a hybrid offspring, for this very reason prone to degeneration, which is increased by the impossibility of crossing the hybrids by the pure supposed originals. The size of the birds seems to be obtained in this case at the expense of the reproductive powers, the admixture of different original species, and breeding "in and in," have been carried beyond the limits fixed by nature, and deterioration is the result.

To ascend from birds to man—what we have seen in our domestic fowls, we find occuring again in the mulatto, and other hybrid human races.

The mulatto is often triumphantly appealed to as a proof that hybrid races are prolific without end. Every physician who has seen much practice among mulattoes, knows that, in the first place, they are far less prolific than the blacks or whites; the statistics of New York State and city confirm this fact of daily observation—and, in the second place, when they are prolific, the progeny is frail, diseased, short lived, rarely arriving at robust manhood or maternity; physicians need not be told of the comparatively enormous amount of scrofulous and deteriorated constitutions found among these hybrids.

The Colonization Journal furnishes some statistics with regard to the colored population of New York city which must prove painfully interesting to all reflecting people. The late census showed that while all other classes of our population in all parts of the country were increasing at an enormous ratio, the colored were decreasing. In the State of New York, in 1840, there were 50,000; in 1850, only 47,000; in New York city, in 1840, there were 18,000, in 1850, 17,000. According to the New York city inspector's report for the four months ending with October, 1853:

1st.	The whites present marriages - - - - - - -	2,280
	Colored do. do. - - - - - - - - -	16
2d.	Whites present births - - - - - - - -	6,780
	Colored do. - - - - - - - - -	70
3d.	Whites present deaths, about - - - - -	6,000
	(exclusive of 2,155 among 116,000 newly arrived emigrants and others unacclimated.)	
	The colored present deaths - - - - - - - - -	160

Giving a ratio of deaths among acclimated whites to colored persons of 37 to 1, while the births are 97 whites to 1 colored. The ratio of whites to colored is as follows:

Marriages, 140 to 1; births, 97 to 1; deaths, 37 to 1.

According to the ratio of the population the marriages among the whites during this time are three times greater than among the colored; the number of births among whites is twice as great; in deaths the colored exceed the whites not only according to ratio of population, but show 165 deaths to 76 births, or 7 deaths to 3 births; more than 2 to 1.

The same is true of Boston, as far as the census returns will enable us to judge. In Shattuck's Census of 1845, it appears that in that year there were 146 less colored persons in Boston than in 140, the total number being 1842. From the same work, the deaths are given for a period of 50 years, from 1725 to 1775, showing the mortality among the blacks to have been twice that among the whites. Of late years Boston probably does not differ from itself in former times, nor from New York at present.

In the Compendium of the United States Census for 1850, p. 64, it is said that the "declining ratio of the increase of the free colored in every section is notable. In New England the increase is now almost nothing." In the southwest and the southern States the increase is much reduced, it is only in the northwest that there is any increase, "indicating a large emigration to that quarter."

What must become of the black population at this rate, in a few years? What are the causes of this decay? They do not disregard the laws of social and physical well-being any more than, if they do as much as, the whites. It seems to me one of the necessary consequences of attempts to mix races —the hybrids cease to be prolific; the race must die out as mulatto; it must either keep black unmixed, or become extinct. Nobody doubts that a mixed offspring may be produced by intermarriage of different races—the Griquas, the Papuas, the Cafusos of Brazil, so elaborately enumerated by Prichard, sufficiently prove this—the question is, whether they would be perpetuated if strictly confined to intermarriages among themselves—from the facts in the case of mulattoes, we say, unquestionably not. The same is true, as far as has been observed, of the mixture of the white and red races, in Mexico, Central and South America. The well-known infrequency of mixed offspring between the European and Australian races, led the colonial government to official inquiries; and to the result, that in 31 districts, numbering 15,000 inhabitants, the half breeds did not exceed 200, though the connexion of the two races was very intimate.

If any one wishes to be convinced of the inferiority and tendency to disease in the mulatto race, even with the assistance of the pure blood of the black and white races, he need only witness what I did recently, viz: the disembarkment, from a steamboat of a colored pic-nic party of both sexes, of all ages, from the infant in arms to the aged—and of all hues, from the darkest black to a color approaching white. There was no *old mulatto,* though there were several *old negroes*; many fine looking mulattoes of both sexes, evidently the first offspring from the pure races; then came the youths and children, and here could be read the sad truth at a glance; the little blacks were agile and healthy looking; the mulattoes, youths, and young ladies, further removed from the pure stocks, were sickly, feeble, thin, with frightful scars and skin diseases, and *scrofula* stamped on every feature and every visible part of the body. Here was hybridity of human races, under the most favorable circumstances of worldly condition and social position; and yet it would have been difficult, and I believe, impossible, to have *selected*, from the haunts of crime and poverty, more diseased and debilitated individuals than were presented by this *accidental* assemblage of the victims of a broken *law* of Nature.

Such facts and sights as the above convince me that hybridity is a true test of specific difference; and that admixture of species, in man or animals, must end, sooner or later, in deterioration and extinction—very soon, if unmixed with the pure stocks, and later, if thus unmixed—that, at any rate, extinction of the hybrid race is its doom, either by death or absorption into the parent races. For wise purposes, which we can know but imperfectly, the Creator permits, as we see, different races of men and animals to produce fertile offspring *inter se*; thus far and no further can man go in his attempts to mingle species, which change perceptibly within narrow limits, and then perish, or return to their origins. One of the consequences of the above opinion is that the *genus* Homo consists of *several species.*

MEDICAL TOPOGRAPHY OF FLORIDA.*

No. II.

In a continuation of our subject, but briefly introduced in the last article, prairies come next in order.

This name, once and originally given to artificial meadow lands, is in the United States conferred upon those vast

* By E. S. Gaillard, M. D., in Charleston Medical Journal.

tracts which the hand of nature, in her display of infinite variety, has thus peculiarized. From the reports of travellers and naturalists, we have had described but three kinds of prairies, as found principally existing in America; and as the curiosity and research of our countrymen, in their westward emigrating tendencies, have been no less praiseworthy than their characteristic energy and zeal, it is not likely that we shall have other varieties added to the list. We find, then, in America, the healthy or "bushy," the dry or rolling, and the wet or alluvial prairies. The first variety is most commonly found in the middle States, and ranks highest in agricultural interest; the second is peculiar to that vast tract of country included within the parallels of longitude 93° and 123° west; the third is found in most of the southern States. In the Carolinas, these lands are but of small extent and known as savannahs; when of this size in Florida their name is somewhat similar, the Spanish term *sabana* being used; but when, as usual, they are large, this comparative extent Americans designate by the word prairie. The wet or alluvial prairies are found throughout this State, but most frequently in its eastern division. The adjective alluvial is misapplied, for, though most commonly wet, but little alluvium is manifested. The character of the soil is such as to render these bodies of land extremely valuable to the agriculturist; and, when placed in arable order, they have proved equal to the best in the State. Although in their natural condition the superficial water is constantly varying with the contingencies of the weather, the health of the country adjacent is but little affected. A stranger is impressed with admiration and surprise when first beholding one of these beautiful bodies of land; generally level, (or if undulating, but sufficiently so to relieve monotony,) clothed in a carpet of verdure, and bedecked with the gorgeously tinted flowers of nature—more welcome to the wearied eye of the solitary traveller than was ever the city of the prophet to the wistful gaze of the pilgrim. We can imagine nothing more calculated to excite the ardor, zeal, and enthusiasm, of the scientific botanist than an introduction to such a spot; and we doubt not but that, where terrene and aquatic vegetation has by the liberal hand of nature been so profusely scattered, his most assiduous labors would be more than rewarded. These fields in Florida have, as yet, been but superficially explored by the lovers of botany, although more closely allied to the tropics in vegetation than those more favored by this beautiful science. The profession should sit with an expectant eye when the curtain which has concealed

these natural beauties is being finally lifted. There cannot be a doubt but that the catalogue of vegetable medicine will receive a most welcome and valuable addition, and in this light only is the vegetation of this region specifically interesting to the physician. Unlike the prairies of the great west—whose branches, like the tributaries of the Mississippi, form one family—those in this State are, with few exceptions, isolated. The wild and luxuriant growth upon the fertile soil—the verdant slopes bounded and broken by expanses of the clearest water, upon whose surface, "glassing soft as skies," rests beauty painted in flowers—the dimness of the distant outline relieved by the waves of the forest—make, in all, a picture to be justly celebrated by the power which should guide the tracery of the brush, or the enthusiasm which characterizes the lyre. To render perfect so Arcadian a scene, one welcomes with pleasure the pastoral attendants which evidence the no distant habitation of man. Here a group is seen lazily cropping the luxuriant herbage, there another standing idly and refreshingly in the cooling stream, whilst a third reposes with a comfortable ease under the welcome and delightful shade. Such is a spring scene presented by the prairies of Eastern Florida.

The cities of Florida are but few in number, and all of them limited in population, and wanting those evidences which characterize a city. St. Augustine, situated on the Atlantic coast, thirty miles below the mouth of the St. John's river, is the oldest city in the State. The material of which the houses are built is taken from a neighboring island, and consists of concrete sea-shell. This city is unique in its appearance and unlike any other in America. On every side one sees and is impressed with the conviction that its founders were of a class all traces of whom have long since disappeared. In St. Augustine the architecture, manners, habits and customs of the inhabitants all bear record of its antecedent history. The houses, with large balconies, spacious doors and windows, their terraced foundations affording to the pedestrian, from the extreme narrowness of the streets, a twilight shade at noon-day, the gardens invariably attached to each habitation, the orange, the pomegranate, the olive and the lemon, speak to us of the countrymen of Columbus, and tell to the beholder that the evidences around bear silent, yet lasting testimony, to the joys and pleasures of the Castilian's home. The custom among the ladies of St. Augustine of proscribing in their evening walks the orthodox bonnet for the more pleasing and fascinating Spanish substitute, the veil, is now a welcome peculiarity throughout Eastern Florida. The litto-

ral aspect of the city is sandy, yet offering a fine beach for the invigoration and enjoyment of the many invalids who have made this a place of annual resort. Perhaps on no part of the Atlantic coast is one exposed to a more humid atmosphere, where the thermometer varies thirty degrees in a single day and the surface of water is so seldom flecked with ice. This peculiarity alone makes constant fires necessary throughout the winter months, a matter of unwelcome surprise to the northern consumptive who leaves his snow and ice bound land in anticipative search of a uniform and vernal temperature. It is a matter of surprise to the profession that invalids should select the humidity, variations in temperature, unpleasantly frequent eastern breezes, with all of their concomitant and consequent evils existing on the Atlantic coast of this State, in preference to Western and Middle Florida, where climateric advantages are to be fully realized and enjoyed, unvitiated by the ills just mentioned. This is no suggestion, but an experiment successfully made, which negatives the supposition of inane speculation. There are many both from northern and less southern States who in themselves bear living testimony to the hygienic and atmospheric advantages of our western and middle sections. Custom, habit and priority of settlement have made East Florida the Montpelier and Bordeaux of the United States; and experience proves its capability of sustaining this reputation. But where the same advantages may be derived (as in Tallahassee, or Pensacola,) without the serious objections stated, it is singular that these pilgrims should come so far in search of their Bethesda, and, whilst assured of "the moving of the water," stand yet lingering about "the porches." St Augustine, from its miserable commercial inducements, has for years been stationary in enterprise, and almost so in population. As a market for indigenous fruits, it formerly enjoyed a considerable trade, but as this luxury is yearly commanding less of the agriculturist's attention, such fortuitous advantages must be lost. The bar at the entrance of the harbor not having more than ten feet of water, commerce can never be invited thither, and the back country is not sufficiently fertile to command the capital necessary for removing such obstructions. When, therefore, invalids cease to select this city as a place of resort during the winter and spring months, it must fast sink into its inevitable destiny—annual retrogression; and this last must continue until its importance shall become, in character and nature, entirely provincial.

Pensacola, once the capital of West Florida, is situated on a gulf of the same name, having a geographical localization

by latitude 33° 32′, and by longitude 10° 18′. This town was once of exceeding medical importance, being the spot to which the unhappy consumptive was most frequently directed. Its reputation for health was once inferior to that of no single locality in the State. Its surrounding country, like the littoral portions of Florida, is sandy, so much so as to induce a peculiar gait in the inhabitants, similar to the rocking observed in the sailor. To that sex, in Pensacola, whose physical organization necessitates this peculiarity of gait, the sand must give it an exaggeration calculated to take captive the heart of the most punctilious tar. Now that the excited controversy relative to the indigenous or imported cause of yellow fever is absorbing the attention of many prominent in the ranks of our profession, Pensacola, it is to be hoped in appropriate testimony, will be represented by her physicians. The reputation of this city among invalids, suddenly, it appears, subsided, consequent upon an invasion of yellow fever, which, in the summer of 1822, brougt anguish and desolation to the hearthstone of its inhabitants. It was by the authorities supposed to be caused, at the time, by extreme neglect in an observance of those sanitary measures so essential to the physical welfare of all maritime communities. This fever prevailed during the year mentioned in very nearly all of the cities on the gulf, and if the reason assigned for its existence in Pensacola be correct, it certainly was a most *marvellous* coincidence. Singular that so many communities, believing the enjoyment of previous health to have been dependent upon their sanitary measures, should have, as it were by common consent, become so neglectful of their previous and habitual watchfulness, as the disease, in the various cities, prevailed with an almost *uniform* malignity. Still more singular is it, that the inhabitants should, without any concert of action, have observed so uniform, similar and *proportionate* an indifference. To the eye of reason it appears utterly impossible; such a conclusion could have been but the result of a superficial examination into the manifest cause of the calamity! *Contagion suggests itself* as being the only ground on which such phenomena can be reconciled and explained. As the adjacent country is dry and sandy, the indigenous origin of this fever would seem a manifest impossibility, unless the authorities of Pensacola, in utter inconsistency with their previous and subsequent course, became utterly reckless and regardless of the grave consequences of inexcusable neglect. Granting, however, this to have been the case, it seems inconceivable that in sister cities, and at the exact time, so unusual and culpable a policy should have

been pursued. Contagionists would in this instance assign the apparent and almost manifest cause; but non-contagionists, with laudable enthusiasm and zeal, would, in regard to these ill-fated localities, betake themselves to a diligent study and laborious analysis of their miasmatic geographies, premising the usual and heartfelt anathema upon such reprehensible municipalities. Under all circumstances, and whatever be the result of this most interesting and important controversy, grasping either horn of the dilemma, this unfortunate and cruelly abused body of men demand the sympathy of the most obdurate. If the non-contagionists be right, they have, by "their gross neglect," much to answer for here, and if the contagionists be right, they have, from misconduct, *more* to answer for hereafter! Verily are they indeed to be pitied; more to be commiserated than the poor old Moorish king, when frantically riding

> ——————"up and down,
> Through Granada's royal town;
> Letters to the monarch tell
> How Alhama's city fell—
> Wo is me, Alhama!!"

It would appear, from the present state of this controversy, one could not adopt a better maxim than "*in medio tutissimus ibis.*" The prevalence and malignity of yellow fever, in the cities of our Atlantic and gulf seaboards, seem to have been the result of an imported cause, grafted upon those already existing; the published history and accounts of the disease, as prevailing in Charleston during the summer of 1854, warrant, suggest and justify such a conclusion. It appears that, after the importation of the cause, the disease first manifested itself in the low water lots and unhealthy localities of the city, and that it did not prevail in the higher and more elevated sections until assuming the character of an epidemic. The *materies morbi* was first lighted up, reasoning a posteriori, in regions most favorable to its existence, and did not become epidemic until the atmosphere from these sources had become generally contaminated. It is reasonable to infer that those residing in the healthiest localities had also early connexion with the infected vessels; such must have been the case, but these, it appears, escaped, or if affected at all, but secondarily; that is, either from those not as happily located, or when the disease from them became epidemic. The history of other places, in regard to this disease, proves that it cannot long prevail, or at least not long enough to become epidemic, unless supported by local causes. Though the disease be carried there, unless these unfortunate and unhappy adjuvants exist, it speedily dies out. We do not, however, doubt the

fact of this disease having rapidly disseminated itself, even when local miasm (whether *idio* or *koino* in nature) was inappreciable, or even non-existent. Testimony of the most reliable character has long established this point, and so satisfactorily, that under similar circumstances we cannot but expect a repetion of this dire calamity. Extreme malignity of the disease, or a concentration of its poison in certain instances, seems quite sufficient in producing its extension. The disease appears, in *most instances*, to have prevailed as the result of an imported cause, grafted upon those already existing; the first, by proof, is alone sufficient for *extension*; the last seem insufficient (unless the report of the New Orleans sanitary committee, the reasoning, deductions and inferences of which are questioned, be considered) for the origin of this pestilence. The prevalence of yellow fever, as the result of grafting imported upon local causes, is at least, as a view of the subject, safe and protective in nature and practice. It inculcates, upon each municipality, the necessity of strictly discharging their regulations in regard to hygiene, and demands the *sine qua non* of a most rigorous quarantine; for it is not to be even hoped, that the atmosphere of a city shall ever become so pure as to wholly prevent the extension and desolating effect of this malignant poison. Let cleanliness and quarantine be our ægis for the present; zealous ardor, laborious research and analytic investigation our course for the future.

Pensacola should be deeply interested in the result of this controversy; for if the contagionists be able to establish their ground, and prove its correctness to earnest searchers after truth, to fortify, with fact and force of argument, the reasonable and almost self-suggestive position taken, there is nothing to prevent her regaining her past and pristine reputation—from again offering her balmy atmosphere as a recuperative asylum to the afflicted.

Tallahassee, the capital of Florida, is situated in Leon county, and is not more than three miles north of the elevated and rolling chain of hills which in a great measure bound the shores of the Mexican gulf. It was selected as the seat of government in 1824, and the ballot-box in 1854 determined that it shall ever remain so. The capitol, for the size of the place, is quite an imposing building—chaste in the style of its architecture, massive and spacious. The climate of Tallahassee is pleasant and agreeable, offering great inducement for the hybernation of the northern invalid. Old authorities state the range of thermometer as varying rom 28° to 88° Fahrenheit; the climate has certainly

changed since then, though the mercurial range has not increased; it may be given now as varying from 30° to 90°. The extremes in this register seldom occur; the winters are comparatively mild and agreeable, and the heat of summer seldom great. During the hot months the gulf breezes counteract the influences of the sun, and their effect, balm and welcome, can be enviably imagined by the pallid and prostrated metropolitan of less favored latitudes. The nights in summer, here, as in most parts of the State, are cool and refreshing; one "wraps the drapery of his couch around him and lies down to pleasant dreams;" when the pleasant morning arouses him from his slumbers, he rises strengthened and invigorated, realizing the happy truth and beauty of that conception which, for tired nature, derives a "sweet restorer," in this, "the twin brother of death." Tallahassee, being the seat of government, is necessarily crowded during the session of the State legislature; this, with the frank hospitality of its inhabitants, and the attractiveness of its climate, certainly offers strong inducements to those who annually resort to the State, for a preservation and improvement of health, during the cold months of winter. With uniformity of temperature, the advantages of literature and society, it is certainly surprising that this place is not selected, in exchange for temporary residence in the east. Difficulty of access has been a great impediment; but when the great system of State railroads is completed, there will be a direct communication with the Atlantic coast.

The yellow fever has once, in this inland city, prevailed to some extent, but since the fire which destroyed a large part of it, the disease has been unknown. The fire immediately checked this fever; but whether it had run its course, attacked the susceptible, and so perished—whether the advanced season was inimical to further extension—whether the fire destroyed, by consumption, local causes, or acted as a purifier and disinfectant to the contaminated atmosphere—has not been determined. We are inclined to adopt the last view. As statistics in regard to this disease, during its prevalence in various localities throughout the State, would be interesting, and perhaps valuable, to the controversialists and the profession, we will endeavor to collect the most reliable facts and details, and shall present them when treating of yellow fever as one of the pathological branches of our subject.

Jacksonville, situated on the St. John's river, is rapidly becoming a place of commercial notoriety; it has been selected as a terminus to one of the railroads embraced in the

system of State improvement. When these roads are completed, it may increase to no inconsiderable importance. Its back country can never make it so; for, though interspersed with valuable hummocks and occasional prairies of rather limited extent, the *tout ensemble* is inimical and unfavorable to so desirable a result. This place is one of the great resorts, among the northerners, in winter, and it has so far sustained an untarnished reputation. The authorities are, in their administration, orthodox and strict contagionists, and during the summer of 1854 became conspicuous in an open declaration and maintenance of their relative views.

Newport is a commercial town of comparative recent existence. It is situated on the St. Mark's river, and is the outlet for the staples of Middle and Western Florida. Its population is small, and the place makes but little progress in the acquisition of city accompaniments and associations. Should it (or rather the contiguous and adjoining port, St. Mark's) be a western terminus to one of the railroads, it must become conspicuous and a place of note. These last ports are subject to occasional inundations, and such disasters bear a very marked relation to the extent and malignity of their diseases. Newport and St. Mark's, though surrounded by sandy pine land, have at times been desolated by yellow fever; the pathological statistics, in this respect and otherwise, will elsewhere be described.

Pilatka, situated also on the St. John's river, is the last in the series of towns in Florida, which possess direct medical interest. This place, during the Indian war, was one of the many stations which the federal government had created in the State. Proving extremely healthy, it has been gradually built up, and promises gradual, yet eventful increase. It is beautifully situated on the river, and when refinement and wealth have made their impress on the adjacent country, this place will offer many inducements to the immigrant. Pilatka has in recent years been selected by many invalids, as a place of resort during the winter, and on this account there is constant fluctuation in the extent of its population. Several hotels have been erected, and these are generally crowded during the colder months. The prospective victims of that northern plague seek, in its genial climate, a brief yet happy respite from their suffering; but "the life of all this blood is touched corruptibly," and if permanency characterizes not their move, the charm from the skies which seemed to hallow them here is broken, and prematurely they sink to that sleep which knows no waking.

There are many other towns and villages in the State, but

they offer as yet only a provincial interest, and cannot in so brief a sketch be noticed. Madison, Monticello, Quincy, Waukeenah, Mariana, Newnansville, Alligator, Micanopy, Euchee Anna claim, each, their page, but the specific nature of our subject does not warrant this; they are each but forming the first chapter in their medical histories, and the few remarks, if now made, would but constitute a preface more properly belonging to the volume of their future.

The rivers of Florida having courses of much length rise in the highlands of Georgia, Alabama, and Mississippi; those which empty into the gulf take their origin in the first mentioned State. The Appalachicola divides Western from Middle Florida; it is the longest and largest river in the State, and after a long and tortuous course empties into Appalachie bay. The St. John's, a large and picturesque stream, rises in the centre of the peninsula; if there be romance in the soul of the voyageur, a quiet sail upon its placid bosom cannot but arouse it. Foreigners have, however, scandalized our nation in charging upon us an utter want of this, one of the divinest attributes of humanity. We certainly, as a people, too devotedly worship tangibilities and realities, and these in turn magnify the evil, by making the meat we feed upon animal comfort and an intellectually profitless wealth; but it is a libel upon the American to say that to him romance is unknown. The ruined and ivy-grown tower, the deserted and dilapidated castles—manifestations of nature's age, and the melancholy records of those who have been—tend in the olden countries to inspire this emotion; in the new they are unseen and physically unknown; but in exchange we have scenes which the hand of Nature, in her majesty, beauty, and sublimity, has traced upon the canvass of our country. We gaze not on the hoary and time-worn ruins which embank the Rhine; nor upon the moat, the drawbridge, and barbican which gave security and power to the ivy-clad castles of Scotland; we climb not the ice-capped peaks of Switzerland, nor breathe not the classic atmosphere of Greece and Italy; but upon the highlands of the Hudson, in their extent, majesty, and grandeur, the cosmopolite gazes in homage, admiration, and awe; *our* castle is our country, the temple of liberty, which needs no defence other than the hearts of its worshippers; *our* mountains are its spires, which greet the rising sun and are gilded by its departing rays; from the virtuous, the heroic, the beautiful, the good of other nations, and from the originality of our own, we are constructing a literature, mighty even in its infancy. These slanders upon our country and countrymen are fast passing away, refuted by the

struggles which give sanctity and respect to the past, the greatness and enterprise which mark the present, and the bright prestiges which cast a halo around the future.

But we have, in defending one of the attributes of our countrymen, forgotten one essential to the writer, infrequency of digression; to return, then, to the subject last engrossing our attention. The St. John's river, rising in the centre of the peninsula and flowing with a gentle current northwardly, widens into a bold and majestic stream; it either passes through or forms several lakes; one of these, the St. George, is indeed a beautiful sheet of water, and as placid as beautiful. The St. John's gradually bends eastwardly, and finally falls into the Atlantic forty miles north of St. George. The farms on this river, with their fields extending to its margin and the houses in the distance, present fine views from the steamer's deck, and when we pass beyond the limits of cultivation, the stream is bordered with the dark verdure of forest growth. One here realizes the feeling produced in disturbing the deep silence of nature's vast solitude.

A beautiful feature observed in travelling upon this river is the variety and frequency of islands scattered upon its surface. These insulated little bodies of land are covered with the heaviest forest growth and tangled underbrush; with miniature beaches of white and glistening sand, they appear in the distance as pearl-bordered settings of emerald upon a back-ground of sapphire. There are many reports published in regard to the floating islands of Florida, but it is needless to say that such are entirely false; there could have been no desire to deceive on the part of the reporters, but their conclusion was formed only after a superficial examination. These apparent islands are most frequently noticed in the lakes and bayous, and prove to be nothing more than compact masses of aquatic vegetation, with roots, stems, and leaves indiscriminately mingled, and floating about in obedience to the caprices of wind and current. The inland bodies of water are often covered with "a curious growth of aquatic plants, termed by botanists *pistia stratistes*." This is "commonly, but not correctly, reported to vegetate on the surface of the water." Detached from the locality of their growth, these plants drift about until, perhaps, considerable surface is formed; they are then taken into the current, and floating thus have given rise to reports of the natural anomaly—a floating island. This singular vegetation spreads itself like a carpet over the waters; under it the fish find a welcome harbor, the concealed alligator pursues his ungainly and

awkward gambols, and from its midst the wild fowl rises, and wheeling are quickly lost in flight.

The Suwanee is at present the natural, but arbitrary, division between Middle and Eastern Florida; it rises in the southern part of Georgia, and after flowing southwesterly, empties into Vaccassar bay, on the Gulf. This has been the only river in Florida which, even in burlesque, has ever been given to poetry and song; we crossed it on a burning day in June, and certainly saw, at that hour, little to inspire either the poet or the minstrel. The fluvial topography of the State is as yet not susceptible of justice; there abounds so much unreclaimed and unimproved land, that the rivers cannot well be, or have not been accurately traced out and explored. Writers on this subject have limited material at command, but it is to be expected that in a few years, when the general introduction of steam and the telegraph bring their concomitants, energy and enterprise, forests will give place to fields, and present solitudes to the busy and merry hum of an active and enquiring population.

There are many other rivers in the State, the Perdido, St. Pedro, Conechu, Ocklockney, Corelia, Charlotte, Hillsborough, Vilchees, Alaqua, Econfina, Oscilla, Histahatchee, Chatawhatchee, Achenahatchee, Nasau, St. Nicholas, Chatahatchee, &c.—but of these not much is intimately known; at least, very little of botanical or medical interest.

The botanical field of Florida is but little explored; extensive in magnitude and variety, it is to be hoped that some enthusiastic lover of this important science may devote his labors to its investigation and subsequent publication. There can be no doubt of novelty, interest and variety in this department, and certainly "*le jeu vaut la chandelle.*"

It will be observed that Florida, in her geographical designations, has in a great measure retained the language of her aborigines. Such a course cannot too highly be commended, and it is to be regretted that the custom is not national and, with us, universal. All nations have a language, and this alone is peculiar to us; if not made a conversational and literary medium, at least let it characterize the soil which indirectly gave it birth. The Indian language certainly should not be *proscribed* on account of an occasional sin against euphony, for it is generally harmonious as well as acceptable, and its etymology, when examined, both suggestive and correct. All traces of the aborigines are yearly fading away, and as history has not embraced them in her province, through the soil of their "hunting grounds," at least, let them tell to future generations the melancholy tale of their bitter exist-

ence and terrible destiny. Let their memory be hallowed thus by the soil over which they once trod in innocent happiness, and their language, so perpetuated, be in regard to their fate—

> "Expression's last receding ray;
> A gilded halo hovering 'round decay."

It may be said in regard to the rivers of Florida, that they are numerous, and an important feature in the geography of the country; there are few sections too far removed from these water-courses to derive profit and improvement from them. In the aggregate they are long and tortuous; their bars such as to exclude other than schooner and steamboat navigation. Medical topography cannot well take cognizance of them, for their adjacent country is too little improved and populated to come within the daily province of the profession. As we have been fortunate in obtaining, among the authorities consulted, a condensed, yet full description of the bays and inlets of Florida, we cannot do better than present it.

"From the uncommon levelness of the country on the seashore, and from the numerous rivers that intersect it, there is no part of the world that for the same extent has so many inlets, sounds, narrow passes of water between islands, and communications of one point of the shore with another, by an inland channel. The whole coast is almost a continued line of these sounds; and it is beyond a doubt, that at a comparatively small expense, a canal, communicating with the sea in an hundred places, might be made from New Orleans to the river St. Mary's. From this river to the Sabine, and we may add through Texas, almost every river that enters the Gulf, just before its entrance spreads into a broad lake, communicating with the sea, and the water is partially salt. From one of these lakes to another there is often a wide natural canal, with from four to six feet water. Those on the shores of Florida are too numerous to mention with particularity. Perdido bay, dividing Alabama from Florida, is thirty miles long, and from two to six broad; Pensacola bay is thirty miles long and from four to seven wide. This bay affords the best harbour on the Gulf shore; Bayou Texas enters from the north, above Pensacola, and is four miles long and a fourth of a mile wide; St. Rosa sound connects the bays of Pensacola and Chatawhatchee. This is a charming sheet of water, forty miles long and about two wide: a narrow peninsula divides Pensacola bay from this sound for thirty miles; it yields five feet water in its whole length. Chatawhatchee bay is forty miles long and from seven to fourteen wide; it receives a number of creeks, is much affected by storms, and

was formerly the seat of a profitable fishery. St. Andrew's bay is protected by a number of small islands, receives some navigable creeks, has deep water, is twelve miles long and five wide ; St. Joseph's bay is twenty miles long and seven wide ; Apalachicola is twelve miles long and from four to six wide ; Ocklockney is twelve miles long and two broad ; Appalachie bay is a circular indentation, in which is the port of St. Mark's, the nearest point to Tallahassee ; Histahatchee offers a safe harbor for small vessels; Vaccassar is the easternmost bay in West Florida."

We have inserted this long extract, because it contains the most valuable information, in the smallest possible compass ; it may be of importance for future reference, and we know not where these valuable details may elsewhere be obtained. There is no part of Florida, in regard to which the profession may sooner need these abbreviated and necessary facts.

The lakes of Florida are many in number and large in extent; beautiful, placid, and ornamental, though not so attractive as that which in the poet's vision appeared "margined with fruits of gold and whispering myrtles, glassing soft as skies, save with rare and roseate shadows." No subject embraced in the medical topography of the State bids fair to be of more interest to the profession; the health of the adjacent country varying, in some instances, with the character of the subjacent soil, the extent and condition of the water. Mickasucke lake, fifteen miles northeast of Tallahassee, is twelve miles long; around its borders have been discovered traces of the fields and orchards of the aborigines. The health of the country adjacent to this and other localities will be described when treating of the diseases of the State. Lake Jackson, northwest of Tallahassee, and surrounded by some of the richest lands in the State, is eight miles long and three broad. Jamony lake, fourteen miles north of Tallahassee, is eight miles long and three broad. Tallahassee lake is near the city of similar name; 'tis Chefinico's old town that once occupied its southern shore. Inundation lake has been newly formed by the inundation of the Chipola; this lake is twenty miles long and seven wide; though deep, the forests not many years since were still standing. Badford's and Jackson's lakes are not many miles from Tallahassee; the latter is a large and beautiful sheet of water, being fifteen miles long and over one wide. This lake was once subject to sudden increases in the depth of its waters; it is thought to have a subterrene outlet, and these sudden rises are attributed to a stoppage in this concealed channel. During the time of General Jackson's campaign, lake Jackson was but a small

and shallow pond. The lakes of Florida have not attracted much of the attention of writers, since the country became a part of our Union; of the previous facts and interests connected with them very little is known, for Spaniards were lords of the soil, and from the silence of their government, history redeems scarcely more than uncertainty and obscurity. A priest, calabozo, commandant and a file of soldiers, when made the custodians of a country, seldom preserve or rescue anything interesting and valuable to our profession. Of the hygienic importance of these lakes there is nothing of sufficient uniformity to admit generalization; such as may be of particular importance will be noticed with the relative lake, when treating of the fevers of the State. These bodies of water must in time lend beauty, variety, and attraction to the Floridian's home; for wherever occurring in the world they are no less a subject of attachment among a people than a geographical characteristic of their soil; Loch Lomond, Wetter, and Leman! at the mention of thy names how throbs the heart and fires the eye of the poor exile from the countries which you designate. When her people invest their places with homes interests and home affections; when permanent occupants take the place of nomadic adventurers; when architectural beauty, floral adornment, and the amenities of social life bring about the union of heart and hearth, then shall the lakes of Florida inspire all the patriotism, enthusiasm, and affection that music has sung or poetry apostrophized.

It is to be regretted that so little is known of the chemical importance of the great variety of springs found in the State; their waters will become one of the most prominent features in her future medical history. We are not aware of there having been instituted more than one or two chemical analyses, and these are not published in any works or articles on the subject that we have had the good fortune to read. Of the physical characteristics of these springs much more is known, but even in this respect scarcely more than an initial chapter has been presented. Many of the rivers in the State derive their origin from a spring; the Chipola, Chatawhatchee, Wacissa, Wakulla, &c., may each thus be traced. The size and extreme depth of many of these springs strike the reflective beholder with admiration, wonder, and surprise, and early attracted attention to the anomaly of the country's subjacent formation. A quaint, but correct old authority thus concernedly speculates on this subject: "There seems to be all over this country *a substratum of soft stones, at equal depths,* which is cavernous, and admits numberless subterra-

nean brooks and streams to have their courses far under ground. In places they burst out in the form of those vast boiling springs which form *rivers at a short distance from their outlets*, and by their frequency, their singular forms, the transparency of their waters, and the multitude of their fishes, constitute one of the most striking features of the country."

There is no theory relative to the production of springs, yet offered, sufficient to account for the vast volumes of water thus ejected from the soil of this country. The doctrine of earth's capillary tubes, of subterrene siphons, of water seeking the level of a distant origin, are insufficient for explaining the phenomenon as here manifested. Most probably, as suggested by some author whose name we forget, the waters of the sea, at some high elevation, enter the many interstices, cropped out and formed by the peculiar character of the substrata, pass through channels naturally existing, and filtered of saline particles by occasional obstructions, they thus permeate the subjacent soil, and where the density of the earth's crust is insufficient to counteract the force by which original level is sought, the immense volumes burst through and so are ejected into the superincumbent atmosphere. The peninsula form of the State certainly gives plausibility, at least, to such a view.

Among the many springs we might describe we shall select only one. Wakulla spring, which forms the river of similar name, is twelve miles from Tallahassee, and is certainly the largest and most wonderful spring in the State. The stream ejected is able to bear a boat on its surface, immediately below the fountain. It is difficult to reach the spot by navigation, as the waters are clogged with flags, rushes, weeds, &c.; this mode is, however, considered best, as conducing to give the most pleasing and wonderful view of the spring. Suddenly the immense mass breaks upon the eye, a circular lake in size and appearance, with waters as clear as crystal. The depth of this spring is incredible and almost inconceivable; it was sounded for two hundred and fifty fathoms, and there is no reliable testimony of the bottom being then found. From the pellucid and aërial transparency of the water, from its wonderful depth, and probably from sulphuret of lime being held in solution, the fountain presents the color of a paling sapphire. Whilst gazing upon this wonderful creation of nature and attempting to analyze the unfathomable depths below, one beholds the clear and perfect reflection of heaven's concave, with clouds flitting across its field, as it were a transient breath upon the surface of a faithful mirror. Many who visit this spring are thus disagreeably affected, feeling as though suspended be-

tween two atmospheres; the feeling is one of giddiness, which disappears on approaching the margins, where trees and shrubs usurp the place of clouds and sky. The meaning of the Indian word Wakulla is, the mystery—a conception as chaste as correct.

There are very many other springs, but a description of these would be physical entirely; and tediousness, but not monotony, would attach to such consecutive detail. Of all the manifestations of nature in the State, these are the most interesting to the profession, whether reference be had either to their natural or therapeutic properties. In regard to the first, a single example affords evidence sufficient of their prominence among the physical characteristics of the country; and in regard to the latter it is only to be regretted that analytical chemistry has not hitherward sufficiently evinced the value of her labors to enable our offering the important results. If there be published analyses of these waters, we are not yet in possession of them. We will endeavor to acquire accurate information on the subject, and shall take pleasure in presenting matter of such peculiar value and interest to the profession; meanwhile, if any casual reader shall be able to offer this desideratum, it will be received most thankfully. We saw many months since in one of the literary organs of this, or some adjoining State, that the water of a spring, discovered near Pensacola, had been accurately analyzed, and that the result proved it to be a great acquisition to the country; the water, in its composition, being very similar to that of Congress spring.

It will be perceived that we have not adhered to our intention of treating of springs in connexion with the diseases which were modified or benefitted by them; superficial inquiry alone induced the belief that this course, from causes just stated, would have been impracticable, and such a plan would have destroyed the little method attaching to these desultory and hastily written sketches.

The islands of Florida are many, but unimportant, belonging as yet more to the geography than the topography of the State. St. Rosa island is a long and narrow strip of land between St. Rosa bay and Pensacola. The Tortugas lie opposite the southern shore of the peninsula. Anastatia lies near St. Augustine, separated from the main land but by a narrow channel. On the western shore there are Hummoch, St. Vincent's, Crooked, St. George's, James, and Dog islands. These uninteresting little bodies of land are usually covered with pine forests, and from this idea one may anticipate the nature of their soil—poor, sandy, and sterile.

Florida is not without her natural curiosities, a truth which her natural caverns, sinking rivers, great springs, and natural bridges abundantly attest. I have from one who has visited two of these caverns the following description: The descent of Arch cave is under a vast rock of limestone, which at great depth expands into a spacious gallery one hundred feet wide and fifty high; from this the visitor passes through a long and rude gothic archway, at the end of which is a running stream twenty-five feet wide and five deep; beyond this he suddenly emerges into a crystal-lined chamber of an hundred feet in length, supported with massive pillars, and adorned with stalagmite and stalactite formations. This cave has been explored for four hundred yards, and may yet contain concealed and unknown beauties. "Lady's cave is still more spacious; this, too, has its galleries, chambers, domes, sparry columns, stalagmite and stalactite formations, and its cold, deep river winding through its dark and diversified passages." Econfina and Chipola rivers both pass under natural bridges. Near Tallahassee is a pond formed not very many years ago (during the time of earliest American immigration we understand) by a sudden sinking of the earth, which descended with the entire superincumbent growth; the concave is fifty feet deep and the bottom is water of depth unknown. Near Mosquito is a warm mineral spring, discharging, like most of those in the State, vast volumes of water; quite sufficient to enable a boat, it is said, to float in the fountain. The character of the water is sulphurous, and already is it the resort of the rheumatic invalids of the vicinity. The fountain possesses characteristic and beautiful transparency, and abounds in fish. Old towers and roads, abandoned and grass-grown causeways, forts and noble plantations, and avenues of majestically beautiful live-oaks are found as melancholy epitaphs throughout the country; speaking to us of that distant time when flourished a people of whose existence and associations history declares her ignorance.

We cannot omit mentioning, among the physical characteristics of Florida, her orange groves. Though "the sighs of orange groves" is only a conception, yet a happy one in the poet's mind, there is much of poetry's atmosphere and associations pervading them. One of the finest groves in the State is *par excellence* designated and known as Orange Grove. This grove is found about the dividing line between Marion and Alachua counties, and forms a beautiful peninsula into Osage lake. Here a natural plantation of evergreens, three hundred acres in extent, and of this two hundred are solely

occupied by this charming tree. This tropical grove presents one of the many beautiful exhibitions of nature, in her luxuriant and exuberant mood. Moisture and heat stimulate vegetation into the exaggerations of vigor and strength. These slender trees, straight, flexile, and inimitably graceful, shoot taperingly up, twelve or fifteen feet in height, their expanded branches clad in umbrageous green. In the creamy light of our southern sun, how glisteningly gleam the verdant and polished planes of the pendant leaves, small, smooth, ovate, and coriaceous—interweaving, as it were, to form the sylvan luxury of subjacent shade. The snowy blossoms, in all stages of development, from the bursting bud to the matured flower, (in the purity of its perfect white,) shake perfume from their floral envelopes, as disturbed by the dalliance of the zephyrs. Ensconced in this profusion of bloom and verdure, pendant from their fragile stems, swing the mellowed spheres, like golden orbs in ether; whilst as you gaze through green-pillared vistas, tranquil lakes, sleeping in placid serenity, reflect the glancing rays of a sun, lighting up this garden of beauty.

[To be continued.]

WESTERN TEXAS.

We have a climate unsurpassed, even by the far-famed Italy. Our winters are short and *very* mild. We have what are termed *northers* occasionally during the winter season, which, when accompanied with rain, are really disagreeable, but when unaccompanied with rain, which is generally the case, (for we seldom have much rain during the winter season,) they are not at all disagreeable, but are rather pleasant than otherwise. The climate here through the winter much resembles the pleasant parts of the months of October and November in the northern States.

The commencement of spring here generally dates from about the middle of February. Planters commence planting about the middle of February or the first of March, and from that to the middle of June. Early planting is considered the best, for then they have the advantage of the early spring rains to start and the June rains that *never fail* to mature their crops. Two years ago this fall we saw a field of cotton that was planted on the *last* day of June (in new ground) that yielded 500 lbs. of picked cotton per acre. We would ask in what other State in the Union was it ever done?

Our summers are long, but, strange as it may appear, less oppressive than in higher latitude. The sun shines with

great force, it is true, but nevertheless the air is always cool, and almost invariably we have a gentle breeze from the southeast to fan us with its pleasant breath; and then our nights are always cool and pleasant. No one can ever complain of a sultry night in Texas. But the autumn season is the most pleasant of the year. There is a mildness, purity, and serenity in the atmosphere that is perfectly charming and indescribable.

The scenery of western Texas, we venture to say, in point of beauty and variety, is second to that of no other country in the world—from the bold and rugged mountain steeps, where the cool clear waters gush from living fountains, interspersed with rich valleys, teeming with luxuriant growths, to the wide-extended prairies, with their gentle undulating surfaces covered with a rich dress of living green, bespangled with a thousand different varieties of wild flowers, exhibiting every hue, tint, and shade, and presenting a picturesque view of commingled grandeur, beauty, and softness which may be felt and enjoyed by the lover of the beautiful in nature, but of which words fail to give any adequate idea.

Game of all kinds is abundant, and the numerous streams, from the mountain rivulet to the river, are filled with the finest kinds of fish.

One of the greatest of the resources of Texas, if not *the* greatest, consists in her pastoral advantages. Her whole surface is covered with a never-failing green sward, that affords a perennial supply of food for domestic animals. Hundreds of thousands of horses, mules, cattle, sheep, &c. are raised annually that never taste a mouthful of grain or even of hay, but live and thrive wholly upon the spontaneous bounties of nature. The keeping of stock costs its owner nothing but the hire of his herdsman. Stock of all kinds are very prolific, and disease among them is almost unknown.

We have a varied soil, well adapted to raising almost every kind of grain and plants, and which in point of fertility will compare favorably with the soil of any other State in the Union. Corn, wheat, rye, oats, barley, millet, cotton, sugar, tobacco, potatoes, melons, and an endless variety of garden vegetables are successfully grown here. Peaches and figs are the most common fruit; apples and pears have been sufficiently experimented upon to show that they can be cultivated with success; plums and grapes are indigenous. We have been told by men who were raised in Louisiana, and who are well acquainted with orange growing, that oranges can easily be raised here. We will venture to say that more produce of almost every kind can be raised in western Texas,

with a less amount of labor, than in any other State in the Union.

The fact is persons live here with so little labor that they become indolent, and we do not believe that half the produce is raised that might be by the same people were they to use the industry practiced by the people of the older or northern States. To industrial enterprise no State, no country offers a better or a wider field than western Texas. The lands are cheap, the soil rich, with a sufficient amount of timber for building, fencing, &c., without much difficulty in clearing; and the country is rapidly filling up with an intelligent and enterprising population.

Some may say we have no river navigation, no railroads, by which to transport produce to market after it has been raised. As yet we have not, but planters can have their cotton taken from this vicinity to the bay for seventy-five cents per cwt., which we dare say is as cheap as most cotton planters in other States get their cotton to the seacoast towns. Cotton of Indianola or Port Lavaca can be taken to the northern markets or to Europe very nearly or quite as cheap as from any seaport in the south. It is true we are subjected to some inconveniences, but they are generally such as have to be met by inhabitants of newly-settled countries.

The tide of emigration is rapidly pouring in, and we hope the day is not far distant when we shall have a population to fully develope the rich resources of our youthful State; when, for the transportation of our produce, the cart shall have been supplanted for the swift-urged car; and when the prairies, over which now grazes the mustang in peaceful quietude, shall teem with fields of golden grain, and the wild flower that now waves its head to the morning breeze shall tremble at the approach of the iron horse.

ANCIENT SLAVERY.

The history of slavery, and its incidents at different times and under diverse circumstances, cannot be estimated too minutely, or with too great circumspection. Whether it be right and wise, as all who advocate the continuance of the institution are logically and morally bound to maintain, or whether it be wrong but expedient, as so many of its apologists imprudently assert; or whether it be sinful, atrocious, and ruinous, as the abolitionists of every hue and clime exclaim, it has been since the world began, or at least since societies assumed a stable form and a definite character, one of the principal and most enduring arrangements of humanity. As such, it

merits a complete and impartial appreciation in all its manifestations.

The speculative interest of the question of slavery is very far transcended by the practical necessity of an adequate solution of its various and intricate problems. The permanence of the Union, the harmony of the American people, the prosperity and, in a great measure, the good repute of our southern population, require that the subject should be candidiy examined in all its aspects, so that, if possible, acquiescence in the conclusions established by argument and research may introduce unity of sentiment in regard to this apple of discord.

In every investigation of social questions, the history of the institutions discussed is the first, and perhaps the most difficult task to be accomplished. The inverse method, however, was first adopted, and has usually been employed by both the defenders and the assailants of slavery. They have endeavored to enforce the conclusions arrived at by ingenious reasoning from unascertained premises before the facts were determined which must constitute the basis of any valid argument relative to the organization of societies. The abolitionists proceeded in their indictment of slave-holders like honest Dogberry: "Masters, it is proved already that you are little better than false knaves; and it will go near to be thought so shortly." Nor was their calculation erroneous, for with a jury of Dogberries the verdict was certain. Unfortunately, the issue was at once accepted in this blundering form by the defendants, and the earliest replies amounted to nothing more than a plea of confession and avoidance. We are beginning to suspect our error, and to change our line of defence.

But our adversaries have anticipated our move. The more temperate among the opponents of slavery have already altered their tactics, not perhaps from any conviction of the greater propriety and cogency of the historical method of procedure, but because they have been driven back to the examination of the past by the difficult inquiries prescribed by the labor question in Europe, and the impossibility of finding an adequate answer to the ever incumbent riddle by contemplating the present, or drawing deductions from the arbitrary postulates of imaginary morals.

The slavery question and the labor question are indeed identical; they interpenetrate each other, and are branches of the same inquiry. It depends entirely upon the point of view adopted which is to be considered the principal, and which the subordinate member of the division. To us, the former

would be the capital investigation; to the disciples of free labor, the latter would be the chief head. Whichsoever of the two might be assumed as the point of departure, it would necessarily lead to the consideration of the other; and thus the miseries of the laboring classes in the great free communities of the world, and the imperative demand of some alleviation or explication of those miseries, have excited the slavery agitation, and led to the historical investigation of the condition of slaves in different ages.

Already, numerous and elaborate treatises have been written on the history of slavery. These have appeared principally in France, where the social disturbance has been most felt, and most profoundly analyzed. But the abolitionists of England, and of the northern States, have not been idle in turning this weapon to their account, and have accordingly produced some historical narratives, which belong to the category of partisan diatribes, rather than to the sober class of instructive chronicles. The French works on this text are learned, acute, and industriously compiled; they are impregnated, of course, with the poison of fanatical prejudices, are colored with the peculiar sentiments and sociological reveries of their authors, and are moulded by the influences which dictated their composition, and by the political purposes contemplated in their production. But, if not impartial, they are written at least with a sincere attempt at honesty. This is more than can be usually said for similar attempts in our own language, which are for the most part hasty compilations, patched together without discrimination, enriched by the idle stories and copious misrepresentations of trashy newspapers, but illumined by neither philosophy nor learning, and unredeemed by either intelligence or sincerity.

So far, we have resigned almost entirely into the hands of our adversaries the all-important task of composing the history of servitude. We have scarcely ventured to challenge any of their statements. We have been negligent of their labors, inattentive to the probable effects of their works, and indifferent to their misconceptions or misrepresentations. The field has been left in the keeping of the enemy. We have not sufficiently estimated the immediate interest which we have in preserving pure and undefiled the current of historical information, nor have we been solicitous to resist, before it may be too late, the flood of literary calumny and philosophical misapprehension which threatens to sweep over us.

The history of any institution is the collection and criticism of the evidences which sustain or condemn it. It is the

record and collation of the facts to which all available argument must appeal, in order to enforce its conclusions. If, therefore, it be written in a spirit of error, or of malevolent partiality, it prejudges the question of slavery to our disadvantage, and confounds our philosophy by the array of false but unchallenged testimony which it marshals against us. Opposition is vain, unless we seize the hostile battery, and turn against the adversary the same guns which have been making havoc in our ranks. The strength of our convictions, the soundness of our reasonings, the ingenuity and cogency of our speculative combinations, will prove utterly futile, unless we first conquer the facts which barricade and protect the hostile position. If we cannot overcome the statements opposed to us we may submit at once; if we cannot change their significance and tendency, by discovering their error or their partiality, we may lower our arms, and acknowledge that we have been blindly upholding a bad cause, and that victory is denied to us because we have been contending against the truth. But until this effort has been fairly made—until we have canvassed and sifted the history as well as the philosophy of slavery, and discriminated the true lessons of the past from the mistaken or distorted inferences extracted from its archives, our cause is undefended, and we concede the vantage ground to our antagonists, and then affect to be surprised or indignant at the advantages which they have gained from their position.

The slavery question and the labor question must be discussed in all their bearings and in all their developments. The peace, the advancement, the existence, of civilized societies requires this. Every interest, even every Utopian sect, must find utterance, and present its own exposition of the facts, its own solution of the difficulties presented to our time. When all have spoken, a general concurrence may be attained; but that concurrence will be unfavorable, perhaps ruinous, to the slaveholding communities, unless they, too, find a voice for the expression of their views, and examine and interpret for themselves the series of facts wrested from their true sense to their discomfiture.

A fact may be a very stubborn and invariable thing, but there are infinite varieties in its appearance, according to the aspect in which it is seen. When a mountain extends before our eyes it is impossible to deny its reality, its solidity, or the unchangeableness of its actual outline; but its physiognomy will undergo a marked change with every change of our local relations to it. If mists or clouds intervene, so as to conceal either its summit or its base, it will assume so

many, so diversified, and so widely separated forms, that it will be difficult to recognize its constant identity. The same phenomena are exhibited by facts. They carry a different expression on their face, and convey a different significance, according to the side on which we approach them. Thus, before a fact can be received as conclusive evidence of the justice of any position, its exact bearings must be determined with something like mathematical precision, and the effects attributable to individual differences of opinion must be carefully eliminated from the general result. This is the function of history, but it is also the explanation of the discords among different histories of the same facts. Moreover, where the facts contemplated are removed from us by time and place, they are always in some degree concealed or transmuted by the vapors which collect around them. These must be dispelled before we can accept the facts alleged with any confidence, or feel assured that the interpretation given to events has not been deformed by prejudice, fancy, or delusion.

These considerations illustrate the necessity of requiring a history of slavery and labor, written from a southern point of view, if we cannot obtain at once a truly impartial history of those topics. But this must be a work of time and of tedious perseverance, and we must wait patiently in the hope of its ultimate accomplishment. Meanwhile, however, as a preliminary task, or as an immediate policy, we may examine distinct branches of the general subject, and scrutinize the representations already proposed. It is in this spirit that we have undertaken the criticism of some of the characteristics of ancient slavery.

On this branch of the subject several able works have recently appeared in France and in Germany; some of them discussing it incidentally, some of them examining only detached topics; some treating it in connexion with the general history of slavery, or the general history of labor, and some specially devoted to the period of antiquity, or to one division of that period. An instructive essay on Roman slavery has been lately published in a contemporary review by a learned professor at the north. We do not name either the essay or the author, because, in the employment of the statements advanced in the periodical referred to, as a text for our own remarks, we do not design to attack views peculiar to the author, but generally received doctrines which he has only reproduced. The essay to which we allude conveys much valuable information, and condenses much learning, original or borrowed, into a convenient shape; although it tends to

confirm prevailing impressions, by adopting and applying, without suspicion, the conclusions commonly entertained in France, Germany, England, and by the opponents of slavery in general. It is amazing with what undeviating pertinacity prejudices, and opinions founded upon prejudices, descend from generation to generation, and migrate from country to country, passing everywhere uncontradicted because admitted everywhere without interrogation or suspicion. The article to which we refer is written with the good temper and sobriety which so peculiarly characterize the candid student of history; and it is so rare to find these qualities amid the ordinary declamations of the adversaries of slavery, that we turn to its pages with pleasure, though its conclusions are all hostile to the institution itself.

Proudhon makes the acute and just observation, that the improved processes and complicated machines of advanced civilization do not altogether supplant the simpler contrivances of an earlier and ruder age, but only restrict the range of their application. It has more frequently happened, and is theoretically more probable, that the more ingenious and expeditious methods will be forgotten and replaced by the primitive procedure, which they had temporarily displaced, than that the latter has been, or should be, entirely abandoned. There are many lost arts which even modern science is unable to recall. We are ignorant how the immense blocks employed in the construction of the Pyramids were quarried or lifted into place; and are equally uninformed as to the manœuvres by which the stones of the monolithic temples of Egypt were transported to their present positions, and wrought into their present forms. The same thing is true of institutions. The simple and original types never entirely disappear. They may be pushed aside for a time; they may be confined to particular localities, and subordinate functions; and they may undergo strange and delusive transmigrations, but they always exist, and tend always to reappear with the recurrence of the former contingencies. A moment's reflection will convince us that it must be so. The earlier institutions are spontaneous and natural; they are dictated by a universal necessity, and spring from the inspirations of instinct. The later forms are artificial, and are contrived by the calculating reflections of men, to satisfy the artificial requirements generated by the complex and factitious development of societies.

Slavery is a notable illustration of this grand truth. Since Abraham descended from Ur of the Chaldees, and from a period anterior to the birth of Abraham, it has always existed.

Before Aristotle wrote, ancient abolitionists fulminated their denunciations against it. It still exists, and it is impossible to point out any era, of which history keeps the record, when it did not exist among the greater part of the earth's inhabitants. It seems impossible to eradicate it. Legislators have made the attempt in vain, and have always been baffled. It was attempted, without success, in the Eastern Empire, and by the sovereigns of England and France.* In the Synod of Westminster or London, held under St. Anselm, in September, A. D. 1102. The church endeavored to anathematize the slave trade.† In vain. Slavery has never been extinguished by legislation in any independent nation. It has only been abolished in a few dependent colonies, too weak to resist arbitrary measures, by the revolutionary governments of France, and the Parliament of Great Britain; and by the deceptive and futile procedure of the Spanish republics of America, where nominal slavery has been exchanged for a harsher, real slavery. Wherever it has even temporarily disappeared, it has been exorcised, not by legislative enactments, nor by moral impulses, but by the growth of more urgent and incompatible interests. When hired labor became permanently more profitable than compulsory labor, slavery gradually passed into proletarianism, and the laborer was certainly not the gainer by the exchange. The manumission of a slave, without providing him with the means of supporting himself, is regarded by the Mahometans as a grievous punishment;‡ and the justice of the sentiment is confirmed by the modern experience of the laboring poor. They have passed from the domination of a humane, or at least human master, and are bowed down beneath the yoke of a crushing and merciless routine.§ It is the confession of all recent observers that the free laborers, in nearly all countries where free labor prevails, are more the slaves of circumstance and necessity than their progenitors ever were the slaves of men.

> Se questa ē vita o morte, lo non comprendola,
> Che chiaman libertade, e piū s'allacciano.

In these countries slavery has only changed its name and

*A. D. 423–'5, John, the Usurper, attempted to abolish slavery. It was abolished, as a penalty, by Justinian, A. D. 536. Novell. 22. Its abolition was proposed in England by Richard II, and in France by Philippe le Long and Louis XVI. A bill for the purpose was laid before Parliament by Henry VIII, and rejected. Serfdom still exists in Northumberland. On the extinction of villenage, see Hallam, Mid. Ages.

†Rēmusat. St. Anselme de Cantorbēry, liv. I. c. xvi, p. 321.

‡Note to Lane's Arabian Night's Entertainments, vol I, p. 360. Smaller Engl. Ed.

§"Pourvu que la soumission soit toujours ennoblie par l'amour, ce que le joug humain comporte mieux que l'empire extērieur, elle devient autant favorable au bonheur privē qu'au bien public." Comte Pol. Pos

form, and depraved its character by the change; so that the few who clearly recognize this fact, propose the actual re-introduction of the name, as well as of the reality, in the same spirit in which Fletcher of Saltoun in old time advocated its re-establishment, as a boon to "so many thousands of our people, who are at this day dying for want of bread."* So early in the progress of emancipation was it noted that freedom of labor and starvation of the laborers were concomitant phenomena! An eminent French writer has expressed regret at the precipitancy with which the emancipation of the serfs was effected at the close of the Middle Ages;† and the avowed necessity of recurring to the abandoned practice proves the reasonableness of the regret, and, at the same time, the persistence of the principle and institution of slavery.

But it has been steadily denied by the majority of modern theorists that slavery is either just in itself, or consonant with the laws of nature; and consequently it would be illogical to extend to it those considerations which might be appropriate to natural institutions. We shall not repeat a discussion so often and so fully undertaken elsewhere, but shall content ourselves with citing in the note below two testimonies from St. Paul and St. Thomas Aquinas, neither of which has, so far as we are aware, been adduced before.‡ We may add too that the philosophical demonstration employed by Aristotle to prove slavery both natural and just, after having been strongly endorsed by Lord Bacon, has been approved even in England by his latest biographer.§ Slavery, however, is abundantly proved to be natural by the fact of its being spontaneous and universal. Deviations from the rule may occur, but they are partial and transient, and no more prove that slavery is not a natural incident of society, than illegitimate children and foundling hospitals prove the relation of father

* See Fitzhugh's Sociology for the South, ch. III, pp. 51–71, and the N. Y. Times, and N. Y. Herald.

† Quoted by Herbert Spencer. Social Statics, Pt. III, ch. xxii, § 5, p. 285, and see Dove Hum. Prog. ch. III, p. 353–4.

‡ "Who art thou that judgest another man's servant? To his own master he standeth or falleth: yea, he shall be holden up, for God is able to make him stand."—Rom. xiv, 4.

"Art thou called being a servant? care not for it: but, if thou mayest be free, use it rather.

"Brethren, let every man wherein he is called, therein abide with God."
1 Cor. vii, 20, 24.

* * * * "dicendum, quod hunc hominem esse servum, absolute considerando, magis quam alium, non habet rationem naturalem, sed solum secundum aliquam utilitatem consequentem, in quantum utile est huic quod regatur a sapientiore, et illi quod ab hoc juvetur, ut dicitur in I. Politic, cap. V. circ fin. Et ideo servitus pertinens ad jus gentium est naturalis secundo modo, sed non primo modo."—(*Summa Theologiæ, Sec. Secundæ Qu. LVII, Art. III.*)

§ Blakesley's Life of Aristotle, chap. III, p. 52–4.

and child to be unnatural; or woman's rights' practices and the unlicensed intercourse of the sexes prove marriage to be an unnatural restraint. The relation of master and slave, (or servant,) stands on the same footing as that of husband and wife, and of parent and child. All admit of violation and abuse, but do not cease to be either natural or obligatory on that account. These three great fundamental and instinctive relations constitute the base on which the edifice of society is erected. Nor are their respective obligations invalidated by any improprieties in the modes of their occasional origination; and whatever objections may be alleged against the inception of slavery, they have their counterparts in the objects which may frequently be brought with even greater propriety against the manner in which the other relations have been commenced.

The modes in which slavery has arisen have been reduced to three, with no great accuracy of division: capture in war, voluntary sale, and birth. The propriety of the last obviously depends, in a great measure, upon the propriety of the others. In all ages, the chances of war have been the principal origin of slavery:

> e serva il vinto
> Al vincitor, come di querra ē stile.

The prisoner is saved, preserved, instead of being killed on the field, or after the battle. The choice is offered between death and servitude, and the latter is chosen. The Gibeonites, who evaded by craft the doom denounced against the heathen occupants of the promised land, were "delivered out of the hand of the children of Israel, that they slew them not," but became "bondmen, and hewers of wood and drawers of water." If we condemn slavery, we sanction murder ipso facto, because, in the ages and among the tribes when and where slavery originates, there is no other alternative.

Voluntary sale is the result of a similar alternative—of the option, if option it can be termed, between starvation and servitude. It is perfectly in accordance with their logic, that the philanthropists, who deny the competence of man to barter his liberty for a price, should also assert, as political economists, the folly of charity, and the necessity of disregarding the sufferings and decimations of the poor. But it is not necessary that the sale should always be voluntary to be proper. The laws prescribe sometimes the sale, sometimes the enslavement, or prolonged incarceration, accompanied with forced labor, of paupers, vagrants, and criminals. The parent may sometimes, with propriety, sell either his

child or himself. A striking illustration of the former case is afforded in the history of the Visigoths, which merits notice as exemplifying one form of the origination of slavery. That barbarous horde had conquered Mœsia, Dacia, and part of Thrace, and, during the prevalence of a famine, they applied to the Roman governors of the conterminous provinces for relief. The greed of the Roman authorities took advantage of the necessities of the barbarians to practise cruel exactions. They plundered the famishing multitude, by imposing exorbitant prices on all provisions, and doling out to them with fraudulent measures unsound food, till they were compelled to sell their children as the sole means of preserving the lives of both the parents and their progeny.* There is no excuse for the artful compulsion due to Roman rapacity; it is the conduct of the vendors which is alone considered now, and the consequences which would result from the absolute prohibition of their act. In their distress, and such distress may occur at any time under other forms, (nay, does continually occur,) and without the nefarious contrivance of purchasers, it would have been a desolating outburst of philanthropy to prove that human creatures could not and should not be bought and sold, and that no rights could be conveyed or acquired by the transaction.† Modern abolitionism and modern political economy have but one panacea for those threatened with starvation: by the mouth of Mr. Herbert Spencer, both say, let them die or rot. With such an alternative, slavery is the more rational and the more humane.

So much by way of illustration of the character of slavery.

* Cœperunt Duces, avaritia compellente, non solum ovium boumque carnes, verumetiam canum et immundorum animalium mortiana eis pro magno contradere; adeo ut quodlibet mancipium in unum panem, aut decem libras in unam carnem mercarentur. Sed jam mancipus et supellectili deficientibus, filios eorum avarus mercator victus necessitate ex poscit. Haud enim secus parentes faciunt, salutem suorum pignorum providentes; satius deliberent ingenuitatem perire quam vitam; dum misericorditer alendus, quis venditur, quem morituius servatur." Jomandes De Rebus Gelicis, c. xxvi.

† A constitution, or code, was enacted in Massachusetts in December, 1641, containing several provisions, or liberties, called "Fundamentals," or "Body of Liberties."

One of these articles, based on the Mosaic code, provides that "there shall never be any bond-slavery, villanage, nor captivity, among us, unless it be lawful captives taken in just wars, and such strangers as willingly sell themselves or are sold unto us; and these shall have all the liberties and Christian usages which the law of God established in Israel requires. This exempts none from servitude who shall be adjudged thereto by authority." Hildreth's Hist. United States, 1st Series, c. x., vol. I., p. 277-8.

Thank you, Mr. Hildreth, for the testimony, if you do refuse us your vote. Observe the Puritanical precision with which Massachusetts sanctions, under the guise of a sanctimonious prohibition as much as the most unprincipled slave-traders could desire.

If, then, it be a natural and spontaneous institution, it may be expected to follow the same course of development as the other natural or spontaneous manifestations of society. Without sacrificing its essential character, it will undergo many changes, modifications, ameliorations, and depravations. The defects of one form and period will be corrected or increased under other conditions. Hence, the abuses of slavery in antiquity, of serfdom in the middle ages, will be no evidence of similar abuses now amongst either the Turks or the Russians; nor would African slavery be proved to be either impolitic or immoral because iniquities might have been attached to the systems of other times. The accidents of slavery do not affect its essence, nor furnish grounds for legitimate conclusions in regard to it; nor do the casual incidents of one age represent those of another.

It is easy, but very indiscreet, to convert a particular observation into a general law, and to make a present or local interest a universal canon of right; and this has been the usual procedure adopted, perhaps on both sides, in the discussion of slavery. But the peculiar characteristics of the usage in different ages neither condemn nor justify the institution in each particular period nor do they reach the main question. The pretence of morality, which has been set up as an objection to slavery, is a very convenient, but a very transparent assumption. Like the halo around the moon, it is occasioned only by the obstruction of the rays of light through the intervention of mists. Thus England has been in the habit of boasting that the fetters of the slave dropped from his hands and feet as soon as he touched the shores of the happy island. Yet, at that very time, slaves could be, and were, openly bought and sold on the London Exchange.* The regulation of law would have been objectionable, if it had been a law, and required by the public interests of the English people; but it would never have risen above the level of domestic expediency, nor could it ever have justified a boast. If there was any cause for boasting, the credit should not be claimed by England, but promptly rendered to the city of Toulouse,† which centuries before asserted this privilege, and applied it probably to the same good use that Romulus did the asylum at Rome—the increase of a scant population.

If slavery be not intrinsically wrong in itself, ancient slavery is not to be judged by mediæval slavery or modern slavery; nor is African slavery to be weighed in the same balances with its predecessors. So far as their accidents and special

* Wade, British History, p. 833.
† Dubauge, Gloss. Med. & Inf. Latin. Sub voce Sclavus.

characteristics are concerned, each stands alone. We do not, therefore, design that either our condemnation or approval of ancient slavery should be extended to serfdom or to African servitude.

There is one wide difference which separates the ancient from the modern system. In antiquity the enslaved people were, for the most part, of the same grade of intellectual and moral capacity with their enslavers. This was not always the case, for the familiar names of slaves which occur in the comic poets, Thrax, Syrus, Geta, show that the uncivilized races of men contributed largely to the servile population. Still Thracians, Syrians, and Goths approximated much more closely to the capabilities of the Greeks and Romans than the Ashantees and Mandingoes do to the culture and intelligence of the Anglo-Saxon and Spanish families. But in ancient times the slave was frequently far superior to his master, as in the case of Æsop, Plato, Terence, Epictetus, and the enslaved Greeks. Yet Seneca complains of it as an indignity to the philosopher and to philosophy, that Plato was redeemed from slavery by Anniceris for a quarter of a dollar;* and Melissus, though born free, refused his freedom when he had a legitimate opportunity of recovering it.† In modern times, so far as African slavery is in question—the only type of servitude which has been deliberately assailed by the clamour of abolitionists—the race enslaved is confessedly the lowest type of humanity, and the usage thus accords fully with the prescriptions of Aristotle, which have been weighed and approved by Lord Bacon, and very recently by Mr. Blakesley. There are thus many objections to ancient slavery which do not touch the question of American slavery at all; there may be also objections to the latter which are not applicable to the former. For instance, the facility and propriety of emancipation, and the congenial incorporation of the freedmen and their offspring with the undistinguishable mass of the citizens, were a characteristic advantage of the ancient type of the institution, but they are impossible or impracticable in regard to the negroes.

We do not mean to assert that there must always be wrong in the imposition of the servile condition upon races of equal ultimate capacity with their masters. The interests of civilization, and the interests of both the dominant and subject classes, may frequently sanction the perpetuation of the relation even in these circumstances. Servitude may present the

* Seneca, Fragm. 23. Apud Lactant Inst. III. c. xxv, § 15, if HS be not misplaced for ffs.

† Sueton De Illustr. Grammaticis, c. xxi.

only organization which will discipline, educate, and profitably employ the masses whose development has been retarded by the conditions of their previous life and origin; and it may also be the sole method of restraining and regulating those who have run through the course of their civilization, and become effete. It may be also, and we think it is, the necessary accompaniment of the highest social happiness and prosperity. Burke maintained that the well-ordered liberties of a free people required the presence of slavery;* and Rousseau, a philosopher at the other extreme of political speculation, asserted that slavery was essential to any social equality.† But all that we intend to establish by the contrast between ancient and modern slavery is that the circumstances of the two are different; and that, in a very important respect there is apparently more propriety and justice in the later types. It is, however, preposterous to find the moderns inveighing against the servitude of either an inferior or congeneous race, when the whole tendency of their doctrines, their practices, and the social organization of free-labor communities, is to make the mass of the laborers and even of the educated classes, subject to capital, circumstances, and machinery; to render them slaves of the ring and of the lamp; and to degrade and brutalize in the name and by the arts of commerce, manufactures and financial speculation.

With what a naïve simplicity—not to say purblind ignorance—the political economists of Europe, the abolitionists of Exeter and Faneuil halls, with all the other loud-tongued but unreflecting eulogists of the system of free labor, condemn African slavery, because it denies education, advancement, and the prospects of refined enjoyments to the laboring portion of society; and denounce ancient slavery because it degraded the laborer, and rendered labor disreputable! And what are the brilliant effects of free labor and free production in this respect, which entitle its high priests and prophets to fulminate anathemas against all other systems? Greater misery, greater ignorance, greater despair, and greater degradation among the masses. This is the involuntary testimony of the grand sanhedrim of the Scribes and Pharisees. Nay, more: not abashed by seeing misery and wealth, want and luxury, brutality and superfluous refinement, ignorant inca-

* Speech on Conciliation with America, vol. I, p. 187–8, London, 1841. H. G. Bohn.

† Not having the passage before us in the text of Rousseau, we borrow this statement from Proudhon. "Qu'est ce que la propriete."—Ch. v. 2 pt. § 2 1st Memoire, p. 226.

‡ It is thus that Mr Wallace discourses on the subject on the banks of the Amazon, while acknowledging the beneficent effects of slavery before his eyes.—*Travels on the Amazon and Rio Negro*, ch. v. p. 120–122.

pacity and acute charlatanism, increase together with reciprocal augmentations under the development of their boasted system, they vituperate slavery for retaining the slave in a stagnant state of physical well-being, and religiously anticipate for themselves the glorious millenium "when capital shall be delivered from the oppression of labor;" "machinery dispense with the services of men;" the laborers be quietly buried out of sight forever, and the world be divided between rich consumers, rich manufacturers, rich traders, and the machines which supply the first, employ the last, and enrich their owners.* The smoke of incense would then ascend to heaven from the whole earth; the reign of peace and righteousness would have come; but the incense would be the fumes of the factories; the burnt offerings and sacrifices would be holocausts of laboring men, and the world would be the portion of the two beatified classes, which created without labor and consumed without toil—both alike born for their easy vocation, fruger consumere nati. This is the Elysium, the golden Jerusalem of the free-labor doctors and quacks. In this devout home of the blessed life to come they immolate the whole body of the free laborers, and revile the slave-holders of all ages because slavery does not elevate the slave to the ample proportions of free humanity, nor afford the stimulant of prospective wealth to his exertions. "Blessed are the meek," (to wit: Cobden, Bright, and the Boston merchants,) "for they shall inherit the earth." "Blessed are the poor in spirit," (the proletaires and the unmoneyed,) "for theirs is the kingdom of heaven"—a short shrift and a speedy death. Truly the philantrophic ravings of pretended political economists betray them into chimerical paradoxes and practical enormities as gross as any of the dreams of communists and socialists, or any of the projects of red republicans!

But we are in danger of forgetting that our present concern is not with modern systems, but with ancient slavery, and the modern objections to it. Excluding the condemnation which is founded on general principles—themselves assumptions, paralogisms, or disguised hypocrisies—the chief censures of slavery, as it existed in antiquity, are that it rendered labor disreputable, and thereby degraded the citizens and impoverished the state; that it displaced the free laborers, and destroyed the population, the industry, and the agriculture of the ancient world; and that it thus constituted the prime cause and most efficient instrument in producing the decay of

*Spencer's Social Statics, ch. xxv, §§ 5, 6, pp. 318–326, ch. xxviii, § 4, pp 376–331. The phrases between quotation marks are quoted by M. Proudhon form an English manufacturer. Contrad. Scon. ch. iv. § 2, vol. I. p. 164.

ancient civilization, and occasioning the overthrow of the Roman empire. These declarations pass from hand to hand, and constitute the circulating medium—the small change—of the anti-slavery philosophers. They pass from Montesquieu to Adam Smith and Sismondi; from these to the political economists generally, and to M. Guizot; thence to Mr. Merivale and to Greeley, Giddings, and Fred. Douglas. Of course, they reappear in the brief contemporary essay on Roman slavery, which has been mentioned at the commencement of this inquiry, as furnishing the occasion for our investigations. The same old coins are transmitted through all hands; they are much worn, but are still as current as ever; they have contracted a disagreeable odor from the number of fingers which have pawed them, but their value is still unchallenged, and is sealed by public acceptation and the popular scent.

A little learning goes a long way. Like the miraculous loaves and fishes, the scant provision of one satisfies five thousand, and the broken fragments far exceed the original store. As little reflection is required in our day, it is the age of machinery. After the pattern of thought has become acceptable and fashionable, it is only necessary to repeat and multiply the fabrics on which it is impressed. New combinations may be desirable; but after a little ingenuity has devised the modifications of the type, machinery, without intellectual effort, is sufficient to achieve the rest. We cannot reasonably complain that so much of our modern literature is merely the scouring of old clothes, and their adaptation to an immediate market; we cannot reprehend recent criticism for discarding profound study and diligently employing itself in pouring old and sour wine into new and flimsy bottles, furnished with a little soda or charcoal to neutralize acidity; we cannot reprove reviewers for emptying diluting liquors out of a bucket into tin pint-pots; or find fault with the learned Professor, who has furnished the sketch of Roman slavery before us, for being content to copy, compile, abridge, and retail, when there was an opportunity to examine, generalize, and construct. As, however, he was the last to issue these suspicious but unsuspected coins, so far as we are informed, we make the essay in which they are contained responsible for their utterances, according to the common law of counterfeits. We attach no blame, however, to the author, whom we do not name, because unwilling to visit the sins of many on the head of one. He received them innocently; he put them forth unsconcious of their spurious character. Dropping the metaphor, we traverse these allegations in the form and language in which they appear in the Professor's essay. We shall do

what he has not done, we shall test them; but we do not propose to criticize them as his views, but as parts of the common articulation; and whatever blame may attach to the veteran errors belongs in as large a degree to his predecessors and contemporaries as to himself.

"We find that slaves worked in almost every capacity and occupied almost every position in trades and professions. Where slavery is so general labor becomes disreputable; and at Rome, trade and commerce, unless on an extensive scale, were considered mean and unworthy of the free-born Roman."

So says the Professor; so have said hundreds before him. He sustains the declaration by citing two passages of Cicero, which have often done duty on the same station. However, he might easily have multiplied his citations from Cicero and the rest of the ancients, and might, with equal propriety, have extended the remark to the Greeks and the other populations of antiquity. The statement, indeed, is usually made in the broadest form. The contempt of labor, and the pernicious consequences of that contempt, among both Greeks and Romans, has become the commonplace of declaimers and essayists; and the high estimation in which industry is held by the moderns is rendered more striking by the exhibition of the contrast. A recent author of distinction adverts with confident hope and pride to the esteem in which labor is now held and its depreciation in antiquity, and infers from this divergence of sentiment that the means of redress for their social difficulties are always within the reach of the moderns, whatever dangers may be threatened.* We shall not altogether deny these charges against the ancients, because these repeated echoes of the same thing, which are reverberated from all points of the compass, are nothing but ineffectual noise—vox et præterea nihil. The issue is mistaken; there is a complete ignoratio elenchi. True or not true, indubitable or questionable, these allegations prove nothing, because they do not attain to the real point which should be the pivot of the dispute. Did contempt of labor produce slavery? or was it produced by it? or were they interdependent causes and effects? This knot must be untied before the argument against slavery, deduced from ancient opinions, ceases to be fallacious. Is it certain that the Greeks would not have declined, that the Romans would not have died out, if slavery had been discountenanced by the ancients? Did slavery produce contempt of labor among the Jews? Does

*Chastel. Etudes Historiques sur l'Influence de la Charité, &c.

it do so among the Turks? Every man, in both these nations, had, or has, his trade—his manual occupation. Were the overthrow and dispersion of the Jewish people—the chosen people of God—attributable either to the slavery which they employed or the contempt of labor, which they did not entertain? Here are riddles for the assailants of ancient slavery to solve before they repose in their loose deductions. We can promise them confusion and dismay, but no escape, unless they abandon the baggage of principles, assumptions, arguments, and conclusions which they have carried about with so much parade. They have lost their road and marched into a precipitous defile. All that is requisite to stop their conquering progress in this direction is to place a few logs, and other stumbling blocks, across the road. This we have done, and now wish them "bon voyage."

There is some dissimilarity between ancient and modern times in their respective estimation of labor; but this difference has been very much exaggerated and misconstrued, and we do not deem it to be exactly of that kind which is calculated to promise any superior security to the moderns, or to entitle them to the credit of superior wisdom and morality. The current of ancient philosophy and patrician literature does not, indeed, treat manual labor with much consideration or respect. Are the tone of our fashionable novels and the tendency of our fashionable sentiments much more complimentary to it? The ancients openly avowed their disparaging opinions; the moderns say one thing and think another. "They honor it with their lips, but their hearts are far from it."

There has been much exaggeration and misconception in the statement of the sentiments of antiquity, relative to the dignity or indignity of labor. The ancient philosophers held that knowledge was more estimable than practice, science than art, direction and superintendence than manipulation or manual dexterity. The same feeling is manifested at this day, in the value set upon education, in the distinction between skilled and rude labor, in the preference accorded even by political economy to the capitalist who regulates production on the large scale over the laborer who executes the details. Is not the remark of Cicero, quoted by the unnamed Professor, as applicable now as under the triumvirate—"Mercatura, si tennis, sordida putanda est?" Are not small gains still held to be sordid gains? Are not the operations of Baron Rothschild, Emile Pereire, the Barings, the Peabodys, and the Laws held in higher admiration than the

daily toils of a carpenter or a blacksmith? In what does the modern Pharisee differ from the Roman publican?

Change of circumstances has produced changes of expression, but it has produced no fundamental change of sentiment. If we leave the easily misinterpreted dogmas of theoretical writers, and contemplate the actual internal condition of ancient communities, we shall find that industry was as diligently, though not as feverishly, encouraged in them, and that hard work was equally honored during the periods of their healthy prosperity as at present. The writers who have handled this subject have multiplied their citations from the Greek and Roman philosophers and moralists, to prove that slavery engendered the conviction that labor was unworthy of a freeman. We will not stop to ask whether the recent asseveration of the dignity of labor by communists, socialists, and demagogues of every hue, means in its legitimate consequences anything more than the desired emancipation of the laborer from the necessity of working. The life of the early Greeks and Romans, of the Jews and the Tyrians, might have suggested the prudence of modifying the hasty inferences drawn from the Utopian theories and loose declamations of the classics. But even in their philosophical literature there is evidence, which has been overlooked, to establish the fact that the speculative doctrine was limited and conditional. Socrates, in a remarkable conversation, reported or imagined, and at any rate endorsed, by Xenophon,* acknowledges the dignity of labor as perspicuously as any of the moderns; and it is well known that he himself earned a scanty support with his own hands, preferring, like Spinoza, the humble independence acquired by manual labor to any advantages of a more brilliant position. Nor do we find that Socrates, the associate of the noble Alcibiades and the wealthy Critias, the friend and teacher of the illustriously descended Plato and the distinguished Xenophon, the intimate acquaintance of Aspasia, the president of the senate, was treated with any contumely or disdain because he was a mechanic. That, ordinarily, men who had the means of living comfortably without bodily labor preferred to depend upon their revenues or the superintendence of the labors of others, was true then: but is it less true now? If there has been any great change in this respect, how does it happen that the learned professions, government appointments, political avocations, trade, manufactures, speculation, and what are curiously termed intellectual and liberal occupations, are so constantly pursued by young and old, rather than the actual culture of the soil

* Xen. Memorabil. lib. I, cap. vii.

and handicrafts? And how does it happen that pursuits of the former class are so much more highly estimated than the latter by public sentiment and social remuneration? There is very little difference between ancient and modern feelings in this respect; although the difference of circumstances renders it so easy to disguise or overlook the inherent similarity. The homilies on the supposed contrast come with a very bad grace from the apostles and disciples of a system, whose tendency is to substitute inanimate machines for living men—to depress the condition and the character of the laborers—to thrust mature workmen out of employment and the means of adequate subsistence by the cheaper but immoral substitute of women and children—to degrade human capacities and human prospects by constantly applying a higher order of ability to an inferior service, which could be equally well performed by inferior talent—and ultimately to eliminate altogether human labor, and destroy the laboring class.

The difference of opinion and condition between the two ages consists in the presence of slavery in one community, and its absence in those later societies where the treacherous doctrine of the dignity of labor and the freedom of the laborer has prevailed. The ancients bought labor in the lump and furnished the entire support of the laborer. This is still done in slaveholding populations. The rest of the moderns buy labor by retail, and curtail the subsistence to the time of employment and the degree of competition, not measuring it by the wants of the man. Both display the same contempt of labor, and the same repugnance to work; and both seek, as far as possible, to escape from the dire necessity. The esteem, or disesteem, has been nearly equal in both periods; but it was honest and avowed in antiquity, and is pretended or disguised at present. But there is one point in which the ancient philosophers differed essentially from modern fanatics and political economists. They taught the contempt of money, and illustrated their precepts by their conduct. Our contemporaries encourage, by preaching and example, by theory and practice, the acquisition and multiplication of gain, without mercy for the sufferers, or consideration for the starving multitude.

> Quoad vixit, credidit ingens.
> Pauperiem vitium, et cavit nihil acrius; ut si
> Forte minus locuples uno quadrante perisset,
> Ipse videretur sibi nequior; omnis enim res,
> Virtus, fama decus, divina humanaque, pulchris
> Divitiis parent; quas qui contraxerit, ille
> Clarus erit, fortis, justus. Sapiens ne? Etiam; et rex,

Et quicquid volet. Hoc, veluti virtute paratuno,
Speravit magnæ laudi fore.*

This is the language of satire reproving the vices of nearly the most depraved period of Roman history. But this is the serious doctrine of abolition—the sober philosophy of the advocates of exclusive free labor. We do not propose to justify the ancients by condemning the moderns, or to cast out devils in the name of Beelzebub, the prince of the devils.

Nil agit exemplum, litem quod lite resolvit.

We simply design to show that the charges of the moderns against ancient slavery may with equal justice be directed against themselves, and the practices which they so strenuously, but so blindly, vaunt.

[Concluded in our next.]

MANUFACTURES, MINING, AND INTERNAL IMPROVEMENTS.

AGENCIES TO BE DEPENDED ON IN THE CONSTRUCTION OF INTERNAL IMPROVEMENTS WITH REFERENCE TO TEXAS---NO 8.

FALSE POLITICAL ECONOMY—WHAT IS IT?

My definition would be, *mismanagement*, either public or private, connected with the requirement on the part of the people to bear the loss resulting from it. When a burden is inflicted on the people beyond just necessity, to that degree does the infliction emanate from a false political economy. True statesmanship seeks to avoid existing evils at the least possible expense to community, and looks carefully to the employment of means adequate to guard the future. It goes further. It seeks to promote and accelerate the prosperity of

* Hor. II., Sat. III., vv. 91-'99. The line afterwards quoted occurs v. 103 of the same passage. Here is the commentary: "C'est en vain qu'on tenterait d'innocenter la falsification Parisienne; elle existe; elle a ses maîtres, ses habiles, sa litterature, ses traités didactiques et classiques," &c. M. Louis Leclerc, apud Proudhon. "Were the shop keepers put upon their examination, how would they excuse their trade practices? Is it moral to put potatoes and alum in bread—to add salt, tobacco, and colchicum to beer—to mix lard with butter—to manufacture milk in various known and unknown ways; to adulterate oils, chemicals, colors, wines, in short, everything capable of adulteration? Does the existence of inspectors of weights and measures indicate morality? Or is it honest to sell over the counter goods whose quality is inferior to that of the samples ticketed in the windows?"

* * * "Disagreeable questions might be asked concerning the proportion of cotton woven into some fabrics pretended to be wholly of silk. The piracy of patterns, too, would be a delicate subject. And the practice of using gypsum to increase the substance and weight of paper could hardly be defended on the principles of the decalogue," &c., &c. Spencer's Social Statics, ch. xx., § 4, p 222-3. See also § 7, p. 231-2.

the masses by the common means of the State, brought into systematic requisition by the enactment of laws. Internal improvements, therefore, connect themselves in all their incidents with either true or false political economy, and produce benefits corresponding exactly with the degree of sound statesmanship in which measures have their origin.

My present object is to deal principally with the comparatively false political economy connected with the corporate system. Men generally regard the result of *mismanagement* under it as a matter in which the corporator alone is interested. They do not look far enough to observe the extent of its unjust effect on society. Mismanagement, whether under the State or corporate system, will inflict the same injury on the people. Take, for instance, the want of economy in adjustment. If we expend thirty millions of dollars in consequence of local distraction, when the same amount of public accommodation could have been obtained on an outlay of twenty, we shall have thrown away ten millions, on which the interest or dividend is obliged to be paid by productive industry. Any one who will be at the trouble of looking over the location of railways in the United States, will find that two-fifths, or more, of the whole outlay, has been thrown away by the want of proper economy in adjustment. Take the railway charters of Texas, and suppose the roads all built; then, again, see how much better the State could be accommodated with one-half the length of road by a better location merely. Thus much does corporate folly propose to mismanage, and thus much would it require community to pay income on the sacrifice.

The most objectionable kind of mismanagement is that connected with fraud. Take, for instance, the New York and Erie railroad. Fraud was a disease of so long standing with this concern that it became chronic. Without enumerating the nauseating details, we have it from the Railroad Journal, that this company mismanaged its concerns to the amount of thirteen millions in a pretended expenditure of thirty-three; the road being represented by ten millions of stock, and twenty-three millions of bonds, averaging seven per cent. interest. Here, then, thirteen millions are thrown away. The public *should* have been accommodated by paying a fair income on twenty millions, instead of which, productive industry must yield its exactions to pay interest and dividends on thirty-three. In this case we observe that the cost of transportation must be increased so as to pay nine hundred and ten thousand dollars yearly on that which has become a fiction. Over one-third of the business of the road

should be done in connexion with tickets and freight bills headed, "FARE ON FICTION," "FREIGHT ON FICTION," in order to show people how much they have been, and are being, imposed upon by mismanagement and fraud.

Take the Central Railway of New York. This company was formed by the consolidation of several different companies between Albany and Buffalo. After consolidation, instead of graduating the prices for travel and transportation, so as to give a reasonable income on actual investment, ten millions of bonds were issued by the company and divided among the stockholders. This was done in order to evade the statute, and enable the company to draw seven hundred thousand dollars fraudulently from the people to pay the interest on this fiction. The legislature of New York ought to compel this company to head their tickets and freight bills so as to show that about one-third of the aggregate receipts of the road are paid to fiction. It would be the best lesson in political economy New York has had since the old teachers died. Put these operations with the frauds of Schuyler and his associates, and it aggregates the corporate railway fiction of New York to an amount greater than its whole State debt. It demands and receives annual tribute, principally to fraud, to the amount of eighteen hundred thousand dollars. Mercenary speculation, in these arrangements, has been more vigilant and sharp-sighted than popular sagacity. Another reflection also arises. Had one-fifth of this fraud and mismanagement been connected with the State system of New York, what a deafening howl would have come up from every demagogue out of office and who wanted to get in! the newspaper press of the State would have been freighted with complaint sufficient to have sunk the public credit as low as that of Mississippi. But I am talking of things at a distance. Let us home nearer come.

I must now make our friends of the State Gazette responsible for the truth of their publication. In reference to the arrangement by those to whom the Pacific Road contract was awarded, it was alleged that $200,000 of paid-up stock was to be issued to each; and a further arrangement contemplated by which it was to be increased to $600,000. I do not recollect the number of contractors, nor how many they designed to associate in this part of the enterprise; nor do I remember whether it would have required ten or twenty millions to have satisfied this offering to corporate patriotism. My only business is with the fact, whether it was contemplated to make exactions upon the productive industry of the country in order to make it yield dividends to the holders. If so, our

people may now review the policy of putting their internal improvements on such a foundation. They can calmly reflect upon a project fraught with such designs, and estimate the soundness of that political economy that would give twenty sections of land to the mile, in order to buy our citizens the privilege of paying dividends on fiction.

There is another kind of false political economy connected with corporate feebleness in finance. This makes unnecessary exactions on community equally injurious as the grossest frauds, but unattended with motives of turpitude. Take, for instance, the small undertaking to connect the waters of Galveston bay with the Brazos river. After expending the money subscribed and paid in, the company resorted to borrowing. Ten per cent. bonds were prepared to the amount of $80,000, and all but $13,000, I believe, negotiated at from thirty to sixty cents on the dollar. The canal and improvement, when completed, will have cost nominally ——— dollars. One half of this sum in ready money should have performed the work; and some think the same undertaking could now be completed for one-third of the amount. Thus it will be seen, that, in order to make dividends on this stock, exactions must be strained on produce and merchandise in a two or threefold degree higher than correct political economy would allow them to go. This is but the common penalty which the public sooner or later pays in every instance of corporate feebleness in finance. There are no exceptions.

The San Antonio and Gulf railroad would have afforded a very complete delineation of false political economy, had the project been attended with strength sufficient to have worked out its own illustration. It went far enough, however, in experiment, to allow the balance of the picture to be drawn from fancy. It will be remembered that stock was subscribed to the road upon estimates of $14,000 to the mile. The directors let the contract at $27,000. This disparity led to a feeling of discontent, and even accusation of fraud. The explanation to the stockholders and public was, that "as the contractors had agreed to take the bonds of the company in payment, and as they could not be negotiated for over sixty cents on the dollar, it was necessary to make a corresponding allowance in the contract price." Of course this was fair as between the contractors, directors, and stockholders, but what kind of a policy does it disclose for the public to encourage? Here again must produce and merchandise yield *extra* exactions sufficient to pay income on the

sacrifice, amounting to 66⅔ per cent. of the necessary cost of the road.

A short time since, I saw in the Houston Telegraph an article containing some very wholesome advice to the La Grange Convention. The editor assumed that "when times were easy and railroad securities negotiable, a well located road, with a subscription equal to one-half the estimated cost, from which the company had collected instalments and made an expenditure to grade the road and prepare it for the superstructure, would command a loan on its bonds at from seventy-five to ninety cents on the dollar." This, of course, would contemplate an eight, perhaps a ten per cent. bond for Texas. Admitting this statement to be true, let us turn the tables and show how much better economy in finance we *could* adopt, and how much dividends on fiction we *could* exempt our citizens from paying, by the employment of *sound State credit*. I republish, in this connexion, some statements and tables, which appeared in the News Extra in 1852; they were published at that time under the head of "Effect of Constitutional Provisions on the Value of State Bonds."

New York fives, payable in	1866	107
New York sixes, payable in	1866	123
Ohio fives, payable in	1865	103
Ohio sixes, payable in	1875	117
Virginia sixes, payable in	1886	111
Pennsylvania sixes, payable in	1889	99½
Tennessee fives, payable in	1880	92
Tennessee sixes, payable in	1880	107¾
Kentucky sixes, payable in	1871	109
United States sixes, payable in	1868	119½

The above list is from the Stock Exchange table contained in the Railroad Journal of October 23, 1852. By this we observe the New York and Ohio State bonds stand much above the bonds of other States, and those of New York higher than the bonds of the United States. New York fives commanded a premium of 7 per cent.; Ohio fives 3 per cent.; whilst the Tennessee fives are depressed to a discount of eight cents on the dollar.

New York sixes command a premium of 23 per cent.; those of Ohio, 17; Virginia, 11; Kentucky, 9,; Tennessee, 7¾; whilst those of Pennsylvania stand at a discount. New York and Ohio have constitutional provisions regulating the contraction of public debt, and providing for the certain payment of principal and interest. Such are these provisions, that the credit of those States is placed on a sure

basis, and is approaching the highest degree of confidence attainable. Ohio was somewhat later than New York in adopting these provisions in her constitution, but the effect is already apparent in the growing confidence of the public creditor.

Compared with Pennsylvania, the New York bond has the advantage of 23½ cents on the dollar, though it has less time to run by thirteen years. Compared with that of Virginia it has 12 cents advantage on the dollar, though it has less time to run by twenty years, and would exceed it by a much greater difference of premium were its payment, like that of the Virginia bond, extended to 1886.

Let us now compare State bonds with railroad bonds issued by companies. We will take the soundest State bonds and the best railroad bonds; for we can obtain but little satisfactory information from the comparison of unsound things. We can never estimate the true value of things by degrees of rottenness. We will, therefore, take only those bonds which stand highest on the list of Stock Exchanges:

Erie, first mortgage, 7 per cent.	113
Erie, second mortgage, 7 per cent.	104
Erie income 7 per cent.	98
Erie convertible bonds 7 per cent.	96¾
Hudson river, first mortgage, 7 per cent.	100¼
Hudson river, second mortgage, 7 per cent.	89½
Reading sixes, payable in 1870	89¼
Reading mortgage sixes	94¾
New York and New Haven, 7 per cent.	106½
Michigan, Central, 8 per cent.	110
Michigan, Southern	100¼
Cleveland, Columbus, and Cincinnati, 7 per cent.	114
Cleveland and Pittsburg 7 per cent.	102
Ohio and Pennsylvania 7 per cent.	104½
Ohio Central 7 per cent.	96

The difference in value between a New York State bond bearing 5 per cent. and one bearing 6 per cent. is sixteen cents on the dollar. A 5 per cent. bond is worth $1 07; the 6 per cent. $1 23. The premium of a New York 7 per cent. bond, having fourteen years to run, is thirty-nine cents on the dollar. It has an advantage *on the dollar* over the bonds in the above list, as follows:

	Cents.
Erie, first mortgage	62
Erie, second mortgage	53
Erie income	41
Erie convertible bonds	42½

Hudson river, first mortgage	39
Hudson river, second mortgage	50
Reading sixes	33¾
Reading mortgage sixes	28¼
New York and New Haven	32½
Michigan Central	45
Michigan Southern	38½
Cleveland, Columbus, and Cincinnati	25
Cleveland and Pittsburg	37
Ohio and Pennsylvania	34½
Ohio Central	43

The above schedule of comparative values would seem to show the difference between sound State credit and corporation credit in the construction of internal improvements.

Let the reader now compare the 7 per cent. New York bond with the best railway bond capable of being made. It stands above the Erie first mortgage 26 cents on the dollar. Compared with the San Antonio railway bond, it would stand as *one dollar and thirty-nine cents* to *sixty* cents. Compared with a Houston company bond, probably about the same. Now make allowance for the addition which 7 per cent. would give to the respective bonds of the other States. Compare them also. A little careful study and reflection on this branch of the subject will show what may be accomplished in the comparison by the employment of sound State credit. That credit may become just what a people may be disposed to make it. If it is made what it is capable of being made under correct statesmanship, it will possess, on the average, forty cents on the dollar advantage over the best classes of corporate credit; and about the same amount better than *cash*, where the customary rate of interest is 7 per cent. In a State like Texas, it would make more than one half difference on the original outlay, and consequently the same difference in the sustaining exactions, from year to year, necessary to be drawn from productive industry to sustain the improvements.

Let us look a little, in this connexion, at the difference in cost of transportation on the State and corporate works of New York. It stands as *two* dollars to *five* dollars a ton per hundred miles. Now, put the FICTION of these roads mentioned with the advantage of thirty-nine cents on the dollar, which the 7 per cent. State bonds have over *cash*, and a school boy can begin to see what makes the difference in cost of transportation. It saved the people twelve millions last year. It was said in the Austin convention, three years ago, or by some one in reference to its proceedings, that "it would

be a perfect millenium in Texas when we could get transportation for four New York prices." This remark was made in connexion with estimates to sustain the Houston road, and in which it was proposed to tax produce and merchandise in its transit something below ox team transportation. We want no such millenium. We want to save enough out of *that* proposition to bring up the children and educate them, and to learn them to cypher, far enough at least, to calculate dividends on fiction.

There are a few suggestions, in connexion with this subject, I would here take occasion to make. The Edinburg Review, under the head of "Railway Morals and Railway Policy," presents, perhaps, as nauseous a picture of corporate immorality and mismanagement as need be drawn. "It has been shown," says the Review, "that in past years parliamentary expenses (lobbying for paid up stock, of course,) have varied from six hundred and fifty to three thousand pounds per mile, of which a large proportion has gone into the pockets of the profession." "In one contest fifty-seven thousand pounds was spent among six counsel and twenty solicitors. At a late meeting of one of our companies it was pointed out that the sum expended in legal and parliamentary expenses, during nine years, had reached four hundred and eighty thousand pounds," or almost two millions and three hundred and fifty thousand dollars. It is remarked in another place: "We hesitate not to assert, that if there had been less cupidity in the shareholders, and an honester regard for the good of the property, there would scarcely be a trunk line in the kingdom which would pay less than 10 per cent., and many of them would reach 15 or 20 per cent. The fact is, the whole system of railways has been vicious from first to last. Parliament has acted badly, the government has done the same, and has given up railways to the plunder of big wigs, (lawyers,) engineers, contractors, and land owners; the directors have been reckless, and the shareholders seized with insatiable cupidity for premiums, and jobbing in shares. Had railways been managed with anything like commercial prudence, they would have been the finest and safest property for investment." The whole exhibition of the Review, taken together, would confirm one in the belief that about one-third of the expenditure on English railways had been virtually thrown away, and was never embraced in the legitimate disbursement to pay construction account. The Railroad Journal, of New York, in alluding to the subject of these complaints, says: "But whatever the causes of the disasters which have befallen British railroads, involving a loss, vari-

ously estimated at from three hundred and fifty to five hundred millions of dollars, equal to one-half or two-thirds of the whole expenditures upon such works in this country, the *fact* stares us fully in the face. Are our roads in a similar category? Is the vice from which the former have suffered inherent in the system, or peculiar to one country?" *Well* has this question been put, and well should it be answered. What most surprises me is, that the question seems to be regarded entirely as one between those personally identified with the railways. Whilst a few individuals, compared with the masses, have been made the victims of fraud, and a few more have been engaged in perpetrating it, these two classes have received the entire sympathies and execrations of these journalists. The people seem never to have been thought of. The great question of DIVIDENDS ON FICTION, drawn from productive industry, seems to have been entirely overlooked. They have avoided the real question in political economy, and only taken the division of plunder into the account. When will the statesman and political economist sufficiently learn that THERE IS ALWAYS A PEOPLE?

The question here naturally arises, "Are we yet prepared for the adoption of the State system in Texas?" My answer to this question would be, "No." Not, however, from the want of resources, nor want of population, nor from incapacity to make and establish an adequate basis for public credit. Our people, as a whole, have not as yet sufficiently educated themselves on the subject of internal improvements. They are barely and but temporarily fortified against the repetition of that delusion which has swept over the land, and left our politicians looking very queer. The State system involves and requires the highest and purest principles of statesmanship known to humanity. It requires the combination of intelligence, good sense, and patriotism, all directed carefully to the subject. The man who has never made the profession of law his study is just as competent to practice law as the man is fitted to speak or act on the subject of internal improvements who has never made that his study; not that it requires the same length of time to master the one as the other, for the candid, careful, and ingenuous mind will in a little time, with proper assistance, be enabled to comprehend clearly the whole principles and details of both the State and corporate systems. There is more accurate knowledge now afloat in Texas on this subject than in any State in the Union, in proportion to our population. And why is it? The teachings of the great teachers on this subject, but who are now in their graves, have been perseveringly promulgated within

the last three years. Awkward as may have been the delineations, they have set our citizens to thinking, investigating, and analyzing, until now a large class see the way clear in favor of the State system. They now discover its justice and power, in comparison with which the corporate system, with its speculating foundation and dirty tricks, appears contemptible. They are beginning to have a very proper aversion to the payment of DIVIDENDS ON FICTION. We have barely entered, however, on the threshhold of profitable agitation and discussion. As soon as sound internal improvement education can be carried far enough will our citizens be prepared to adopt the State system with success. The best intellects in the State, or in the United States, however, are incompetent to comprehend the subject by intuition. They must investigate. If they investigate with an eye steady to the interests of the State, they will have no difficulty. If the feeling of narrow-minded locality comes uppermost, it will unfit them for both reason and proper action.

But again: can we stand where we are? Distressed by sacrifices, could our citizens be kept from making the effort to relieve themselves from their present condition? They all agree that railroads is the only basis of relief, therefore we are compelled into the adoption of some system, whether it be a true or false one, a wise and powerful or a vitiated and weak one. Any one who has looked over the State, and duly reflected on the subject, ought to know that locality has no strength sufficient to accommodate itself. If we cannot agree upon a reasonable schedule of roads, both as to amount and location, if we cannot agree upon a financial basis and system in connexion under which to construct them, divested of all false political economy, we shall remain powerless, as heretofore, to do anything. We will be obliged to adopt a system that shall be wisely and judiciously planned, perfected, and secured against failure, one that shall command confidence at home and respectability abroad, or we cannot command credit or means to carry it out. If any other is attempted, the present advocates of the State system, I trust, will be the first to discover its defects and to oppose it. Nothing but the most perfect statesmanship will answer the purpose, and our whole people should be made to know it and to understand it; that sections may set the example to sections to act sensibly and rationally. We have no chance for relief upon any other basis. We have resources capable of being multiplied by good management, sufficient to make the State and every part of it well off; but if we continue to act without concert and system, we shall remain nearly where we are ten years hence.

LORENZO SHERWOOD.

THE PROVINCE OF EDUCATION.

Wm. Gilmore Simms, than whom the south has no son more distinguished in literature and scholarship, nor wider known for authorship throughout the republic, in an address delivered at Spartanburg, South Carolina, thus discourses of education. The elevation of Mr. Simms by his native State to any high post of honor and responsibility would be hailed by scholars everywhere as a well-earned tribute to talent and worth, like the appointment of Mr. Irving to Spain, or that of Mr. Bancroft to England.

I have, my friends, just returned from a visit to your own glorious mountain region of the Apalachian, and this journey, by the way, must furnish my apology for the shortcomings of this oration, must plead to you for its imperfections, as it must certainly fail equally to meet your expectations and my own standard. * * * * And, as I gazed, a mighty image arose before my soul's vision, and I beheld the mysterious author, Nature herself, throned in her tangled sovereignty of waste—wild torrents roaring around her; great winds swaying her solemn forests into music, the tumults of which, while they raised the choir of storm into sublimity, did not impair its awful symphonies. These were her voices—voices of moaning and complaint; for in all her grandeur there was gloom, and the desolation of her State rendered valueless all her profligate wilderness of wealth. Her voices of cataract and storm were calling upon *art* for succor and deliverance. She was imploring man—he to whom all her empire was decreed—to come to her assistance. He alone could open the pathways to her empire and make it fruitful. She needed his pioneer to trace out the avenue to her grand abodes; to grade the summits; to span the gulfs with his arches; to render safe the march along her stupendous precipices; she needed his industry to lay bare the tangled wastes of valley beneath her heights, and to clothe their bosoms in yellow harvests, ripening in a generous sun, for the scythe of autumn. She demanded of him the art which should strew her highway with flowers; which should make her crags blossom with the rose; which should crown her ledges with noble architecture; which should raise her statues of living marble out of the massed stolidity of her now cold and silent rocks. Melancholy in her glorious solitude, gloomy in all her grandeur. Nature was thus crying out everywhere for the succor and help of man—for that culture of art which should soothe with the sweets of beauty her dark, and terrible, and sterile aspects.

And thus, in the same sterile, irregular, tangled condition—a wild sovereignty of gloom and thicket—the great soul of humanity cries aloud to education for her rescue.

AGRICULTURAL AND HORTICULTURAL JOURNAL.

AGRICULTURE IN ALL AGES.

No. I.*

I shall in the present article limit myself to a brief historical sketch of agriculture, which became one of the sustaining arts of life as soon as man was ordained to earn his bread by the sweat of his brow. In the garden of Eden, whose fertile soil and genial clime appear to have combined in maturing a continued variety and unfailing succession of vegetable sustenance, agricultural operations were unknown; for that which came spontaneously to perfection required no assistance from human ingenuity; and where there is no deficiency there can be no inducement to strive for improvement. That period of perfection was but transitory; and the Deity that had placed man in the garden "to dress it and keep it," eventually drove him thence "to till the earth from whence he was taken." (*Gen.* ii. 15; iii. 23.)

From that time to the present, agriculture has been an improving art; and there is no reason to doubt but that it will go on advancing as long as mankind continues to increase.

Man, in his greatest state of ignorance, is always found dependent for subsistence upon the produce of the chase; but, as population increases, recourse must be had to other sources of food. And we find in the shepherd's life of the early ages, the first step to agricultural art, the domestication of animals, which it was found to be more convenient to have constantly at hand, rather than to have to seek precariously at the very time they were required. As the increase of population still went on, and the flocks and the herds had proportionately to be enlarged, one favorite spot would be found too small for the subsistence of the whole; and, as in the case of Abraham and Lot, they would have to separate and find pasturage in different districts. This separation into tribes could not proceed beyond a certain extent; and when the land was fully occupied, recourse would by necessity be had to means of increasing the produce of given surfaces of soil instead of enlarging their extent. With Abraham and Isaac it is very evident that wheat and the other fruits of the earth were the rare and choice things of their country; but when such nations once learned, as they might from the example of Egypt, the resource such products were in periods of famine, arising from mortalities among their cattle, they would soon pursue their interests by cultivating them. This completed, the acquirement of property in land for the space not only long occupied, but upon which the occupier had bestowed his labor, built his habitation, and had enclosed from injury by vagrant animals, would be acknowledged to be his without any one stopping to inquire what right he had to make the enclosure.

When once thus located, experience and observation would soon teach the employment of manures, irrigation, times of sowing, and other necessary operations; and every generation would be wiser in the art than that which preceded it. This especially has occurred in these more northern climates, where art and industry has to compensate for a deficiency of natural advantages. "Enlarging numbers," observes Mr. Sharon Turner, "only magnify the effect; for mankind seem to thrive and civilize in proportion as they multiply; and, by a recurrent action, to multiply again in proportion as they civilize and prosper." In this manner improved modes of cultivation, the introduction of new species, and of more fruitful varieties of agricultural produce, have universally kept pace with an increasing population. This, resting upon a basis of facts, vindicates the wisdom of Provi-

* From Johnson's Farmers' Encyclopædia.

dence, and refutes Mr. Malthus's superficial theory of over-production. The agricultural produce of England has gradually increased from the insignificant amount that was its value in the time of the Roman invasion, to the enormous annual return of £200,000,000; and it is very certain that in this country, and much more in other parts of the world, the produce is a mere fraction of what the total soil is capable of returning.

Agriculture is the art of obtaining from the earth food for the sustenance of man and his domestic animals; and the perfection of the art is to obtain the greatest possible produce at the smallest possible expense. Upon the importance of the art, it is needless, therefore, to insist; for by it every country is enabled to support in comfort an abundant population. On this its strength as a nation depends; and by it its independence is secured. An agricultural country has within itself the necessaries and comforts of life; and, to defend these, there will never be wanting a host of patriot soldiers.

Of the pleasure attending the judicious cultivation of the soil, we have the evidence of facts. The villa farms sprinkled throughout our happy land, the establishments of Holkham, Woburn, &c., would never have been formed if the occupation connected with them was not delightful. We have an unexceptionable witness to the same fact in the late Mr. Roscoe, the elegant, talented author of the Lives of Lorenzo de Medici and of Leo the Tenth. Mr. Roscoe was the son of an extensive potato grower, near Liverpool. In the cultivation of that and other farm produce, he had been an active laborer; and he who thus had enjoyed the delights that spring from literary pursuits, and from the cultivation of the soil, has left this recorded opinion: "If I was asked whom I consider to be the happiest of the human race, I should answer, those who cultivate the earth by their own hands."

We have but little information to guide us as to the country in which man first cultivated the soil; nor of that in which he first settled after the deluge. Thus much, however, is certain, that we have the earliest authentic account of the state of agriculture as it existed among the Egyptians and their bond-servants, the Israelites. From the former, probably the Greeks were descended. The Romans, at a later period, were a colony from Greece; and from the Romans the other countries of Europe derived their earliest marked improvement in the arts.

Our brief history of the progress of agriculture, then, will be divided into—1. The agriculture of the Egyptians and other eastern nations; 2. The agriculture of the Greeks; 3. The agriculture of the Romans; 4. The agriculture of the Britons, including a cursory notice of its present state among the chief nations of Europe.

I. The Agriculture of the Egyptians, Israelites, and other early Eastern Nations.—Every family of these primitive nations had its appointed district for pasturage, if it pursued a pastoral life; or its allotted enclosure, if it was occupied by tilling the earth. There was no distinction in this respect between the monarch and his people: each had a certain space of land from which he and his family were to derive their subsistence.

The Egyptians, as well as the Israelites, were flock-masters. The latter were particularly so; and, as Joseph's brethren said to Pharoah, "their trade was about cattle from their youth." (*Gen.* xlvi, 34.) When, therefore, they came into Egypt, they desired the low-lying land of Goshen, as producing the most perennial of pasture. (*Gen.* xlvii, 4.) It is true that the same authority says, "Every shepherd is an abomination unto the Egyptians; but this was because, about a century before the arrival of Joseph among them, a tribe of Cushite shepherds from Arabia had conquered their nation, and held them in slavery; till, after a sanguinary contest of thirty years, they regained their liberty, about twenty-seven years before Joseph was promoted by Pharoah. That the Egyptians were flock-masters is certain, from many parts of the Scriptures. Thus, when Pharoah gave permission to the Israelites to dwell in Goshen, he added, as he spoke to Joseph, "And if thou knowest any men of activity among them, then make them rulers over my cattle," (*Gen.* xlvii, 6;) and when the murrain came into Egypt, it was upon their horses, asses, camels, oxen, and sheep. (*Exod.* ix, 3.)

The attention and care necessary to be paid to their domestic animals were evidently well known and attended to; for, when they proposed to settle in a land, their first thought was to build "sheepfolds for their cattle." (*Numb.* xxxii, 16.) They had stalls for their oxen, (*Hab.* iii, 17,) and for all their beasts. Thus King Hezekiah is said to have made "stalls for all manner of beasts, and cotes for

flocks; moreover, he provided him possessions of flocks and herds in abundance," (2 *Chron.* xxxii, 28;) and that this abundance exceeded the possessions of the greatest of our modern flock-masters, we may readily acknowledge, when we read that, "Mesha, king of Moab, was a sheep-master, and rendered unto the king of Israel 100,000 lambs, and 100,000 rams, with the wool." (2 *Kings*, iii, 4.)

They prepared the provender for their horses and asses of chaff, or cut straw and barley. (*Judges*, xix, 21; 1 *Kings*, iv, 28.) Our translation does not explicitly state this, but it is clear in the Hebrew original. (*Dr. Kennicott's* xxivth Codex; *Harmer's Observations*, i, 423.) It is also certain from the Hebrew original, that they tied up calves and bullocks for the purpose of fattening them, (*Jerem.* xlvi, 21; *Amos*, vi, 4, &c.; *Parkhurst's Hebrew Lexicon*, 673;) and that they were acquainted with the arts of the dairy. "Surely the churning of milk," says Solomon, "bringeth forth butter," (*Prov.* xxx, 31;) and Samuel speaks of the "cheese of kine," (2 *Sam.* xxvii, 29.) The chief vegetable products cultivated by these eastern nations were wheat, barley, beans, lentils, rye, the olive, and the vine. (*Exod.* ix, 31; *Levit.* xix, 10; 2 *Sam.* xvii, 28, &c.)

The scanty notices which we have of their tillage, give us no reason to doubt that they were skilful husbandmen. The name for tillage (*Obed*) emphatically expresses their idea of it; for it literally means *to serve the ground*. (*Parkhurst*, 508.) And that the cares and attention necessary were well sustained, is evidenced by the fact that David, for his extensive estate, had an overseer for the storehouses in the fields; another over the tillage of the ground; a third over the vineyards; a fourth over the olive trees; two to superintend his herds; a seventh over his camels; an eighth to superintend his flocks; and a ninth to attend similarly to the asses. (1 *Chron.* xxvii, 25—31.)

Of their ploughing, we know that they turned up the soil in ridges, similarly to our own practice; for the Hebrew name of a husbandman signifies a man who does so. (*Parkhurst*, 93.) That they ploughed with two beasts of the same species attached abreast to the plough. (*Deut.* xxii, 10.) That the yoke, or collar, was fastened to the neck of the animal; and that the plough, in its mode of drawing the furrows, resembled our own; for we read of their sharpening the coulter and the ploughshare. (*Sam.* xiii, 20, &c.) Ploughing was an operation that they were aware might be beneficially performed at all seasons; for Solomon mentions it as a symptom of a sluggard, that he will not plough in the winter, (*Prov.* xx, 4;) and that too much care could not be devoted to it, they expressed, by deriving their name for ploughing from a Hebrew root, which signifies *silent thought and attention*. (*Parkhurst*, 244.)

Their sowing was broadcast, from a basket, (*Amos*, xi, 13; *Psalm* cxxvi, 6;) and they gave the land a second superficial ploughing to cover the seed. It is true that harrowing is mentioned in our translation, (*Job*, xxxix, 10;) but Schultens and other Hebraists agree that harrowing was not practised by them. Russell, in remarking upon the mode of cultivation now practised near Aleppo, says: "No harrow is used, but the ground is ploughed a second time after it is sown, to cover the grain." (*Parkhurst*, 720.)

The after-cultivation apparently was not neglected; they had hoes or mattocks, which they employed for extirpating injurious plants. "On all hills," says the prophet, "that shall be digged with the mattock, there shall not come thither the fear of briers and thorns." (*Isa.* vii, 25.) In those hot climates a plentiful supply of moisture was necessary for a healthful vegetation; and the simile of desolation, employed by the same prophet, is "a garden that hath no water." (*Isa.* i, 30.) In Egypt they irrigated their lands; and the water thus supplied to them was raised by a hydraulic machine, worked by men in the same manner as the modern tread-wheel. To this practice Moses alludes when he reminds the Israelites of their sowing their seed in Egypt, and watering it with their feet, a practice still pursued in Arabia. (*Deut.* xi, 10; *Niebuhr, Voyage en Arabie*, i, 121.)

When the corn was ripe, it was cut with either a sickle or a scythe, (*Jer.* l, 16; *Joel*, iii, 13,) was bound into sheaves, (*Psalm* cxxix, 7; *Deut.* xxiv, 19, &c.,) and was conveyed in carts, (*Amos*, ii, 13,) either immediately to the threshing-floor or to the barn. They never formed it into stacks as we do. These passages in the Scriptures (*Exod.* xxii, 6; *Judg.* xv, 5; *Job*, v, 26) refer exclusively to the thraves or shocks in which the sheaves are reared as they are cut. (*Harmer's Observ.* iv, 145, &c.) The threshing-floors, as they are at the present day, were evidently level plats of ground in the open air. (*Judg.* vi, 37; 2 *Sam.* xxiv, 18—25, &c.) They were so placed that the wind might, at the time of the opera-

tion, remove the chief part of the chaff. They, perhaps, had threshing-floors under cover, to be used in the inclement seasons; for Hosea, (ii, 35,) speaking of "the *summer* threshing-floors," justifies such surmise. The instruments and modes of threshing were various. They are all mentioned in these two verses of the prophet: "Fitches are not threshed with a threshing instrument, neither is a cart-wheel turned upon the cummin, but the fitches are beaten out with a staff, and the cummin with a rod. Bread-corn is bruised because he will not ever be threshing it, nor break it with the wheel of his cart, nor bruise it with his horsemen." (*Isaiah*, xxviii, 27, 28.) When the seed was threshed by horses, they were ridden by men; and when by cattle, although forbidden to be muzzled, (*Deut.* xxv, 4,) yet they were evidently taught to perform the labor. (*Hosea* x, 11.) The "instrument" was a kind of sledge, made of thick boards, and furnished underneath with teeth of iron. (*Isaiah*, xli, 15; *Parkhurst*, 242, 412.) The revolving wheels of a cart, and the various-sized poles employed for the same purpose, need no further comment. To complete the dressing of the corn, it was passed through a sieve, (*Amos*, ix, 9,) and thrown up against the wind by means of a shovel. The fan was, and is still, unknown to the eastern husbandmen; and where that word is employed in our translation of the Scriptures, the original seems to intend either the wind or the shovel. (*Isaiah*, xxx, 24; *Jer.* xv, 7; *Parkhurst*, 183, 689.)

Of their knowledge of manures we know little. Wood was so scarce that they consumed the dung of their animals for fuel. (*Parkhurst*, 764.) Perhaps it was this deficiency of carbonaceous matters for their lands that makes an attention to fallowing so strictly enjoined. (*Levit.* xix, 23; xxv, 3; *Hosea*, x, 12, &c.)

The landed estates were large, both of the kings and some of their subjects; for we read that Uzziah, king of Judah, "had much both in the low country and in the plains; husbandmen, also, and vine-dressers in the mountains and in Carmel, for he loved husbandry," (2 *Chron.* xxvi, 10;) that Elijah found Elisha with twelve yoke of oxen at plough, himself being with the twelfth yoke, (1 *Kings*, xix, 19;) and that Job, the greatest man of the east, had 14,000 sheep, 6,000 camels, 1,000 yoke of oxen, and 1,000 she-asses. (*Job*, i, 3; xlii, 12.) In the time of Isaiah, the accumulation of landed property in the hands of a few proprietors was so much on the increase, that a curse was uttered against this engrossment. "Wo unto them," says the prophet, "that join house to house, that lay field to field, till there be no place, that they may be placed alone in the midst of the earth." (*Isaiah*, v, 8.)

THE SWEET AND THE IRISH POTATO.*

Sweet Potato—Batatus Edulis.—The esteem in which the sweet potato is held may be estimated by the extent to which it is produced, 4,742,000 bushels, worth more than two millions and a quarter of dollars, being the crop of Mississippi of 1849.

In the production of this esculent, Mississippi ranks fourth among the States of the Union; Georgia, North Carolina, and Alabama only excelling her.

Five varieties are cultivated with us, which will be mentioned in the order of their excellence, as generally estimated. First in quality, as in extent of cultivation, stands the Yam, which, if surpassed by some in average size, is approached by but one in delicacy of flavor. Its shape is oval or roundish, with a smooth exterior, and yellowish tint. It is as prolific as any other, and keeps remarkably well.

The next in place is the Spanish, or White potato; it is long and crooked, with large veins or nerves running lengthwise on the exterior, by which it is universally characterized. Another characteristic which distinguishes it from all others, is an aptitude of the flesh, or meat, if I may so designate it, when cooked, to divide or separate in layers or flakes lengthwise, the fibre at the same time being destitute of any stringy property.

Early in the season, it is rather too milky to suit the taste of many, but when thoroughly cured, it becomes very sweet and rich, differing somewhat in flavor

* From Wailes' Agricultural Report of Mississippi. Every planter in the South should procure this work, published by Lippincott & Co., of Philadelphia, 1855.

from the yam. It grows to a large size, and singularly enough, notwithstanding its excellence, it seems to be greatly neglected of late, and is not now often met with.

The Bermuda potato has a deep crimson or purple skin ; but the interior is very white. In form, it is more cylindrical than the yam, somewhat elongated, and is regarded by some as the largest and most prolific variety. Its flavor, however, is coarse and flat.

The Red is the earliest variety introduced here. It was formerly very generally cultivated ; it is inferior to the foregoing in size, and not now very much in use.

It is rather dry and mealy, and is best early in the season, when newly dug, and it is perhaps the earliest to mature.

The Poplar Root, which somewhat resembles the yam in outward appearance, but not generally so round, with a smooth skin, and the color rather a deeper yellow, was introduced ten or fifteen years since with high commendations. It proved a watery, insipid kind, however, and is now generally banished.

Up to the period of 1810 or 1815, the yam potato was rarely seen ; the old red and white Spanish being altogether cultivated—the former much the more extensively.

The Bermuda is the most recent introduction.

All the varieties of the sweet potato succeed best in a loose sandy soil, although the yam is said to flourish in the prairies of the eastern counties. I have seen one of that variety raised near Macon, which weighed ten pounds.

The proper time for planting is about the first of April, and the most approved mode of raising the yam is to *spread* the small roots or potato plantings on a rich bed about the first of March, covering them with three or four inches of loose rich soil. When the sprouts make their appearance above the surface, they are drawn and set out in newly-made ridges after or during a rain.

These beds continue to throw out a succession of sprouts, which may be planted every favorable season as late as the first of August, and if well worked, and the weather be not too dry, will make good potatoes. It is said the red potato does not succeed so well when planted in this way.

At some seasons the sweet potato is sufficiently matured for early use by the first of September ; but it is attended with great waste to commence on them so soon, as it is thought the tubers grow more in October after the vine begins to decline than before.

The best time for digging potatoes is the first good dry mild weather succeeding the first frost that kills the vines. They are then better *ripened*, freer from water or sap, and consequently keep better. They should not be suffered to remain undug until the ground freezes, as they will become frostbitten and rot.

The most approved mode of preserving the sweet potato is to place them in piles or heaps of about twenty-five bushels each, on raised ground, with a flooring of cornstalks and straw, the sides being lined with the same material, the whole covered with three or four inches of earth or sod, a small aperture being left near the apex of the cone for the escape of the moisture which passes off from the potato when undergoing the sweat, which always takes place soon after they are placed in bulk.

Put up properly in this way, they will keep perfectly sound and sweet until June or even later.

The potato *patch* affords a good gleaning to the fattening hogs, which are usually turned upon it, and find in the small tubers, cut and waste potatoes, a favorite food, on which they thrive rapidly, and is a good preparation for after feeding on corn in the close pen.

Some planters put in a large crop of sweet potatoes for this purpose, and when corn is scarce give no other food. The meat is said, however, to be less firm, and the lard more oily, than that of the corn-fattened hog.

The Irish Potato—Solanum Tuberosum.—The Irish potato is not extensively cultivated, and seldom beyond the limits of the garden.

Two varieties—the Meshanic and the Purple Eye—are those which seem to be the most approved, the red being rarely planted, under the common belief that the white varieties succeed the best. For what we do plant we are dependent every year almost entirely on those brought down the Mississippi from the Western States.

A course embracing the planting, cultivation, and after treatment, which ha

been tested many years, may be confidently recommended as one attended with much success.

In suitable weather, soon after the first of January, on the even, clean, but unbroken *surface* of the ground appropriated for the purpose, place the cuttings, with the eye upwards, three inches apart, in rows two feet distant from each other. Cover *well* with light rich vegetable compost. Well rotted corn-blades, straw, or leaves from the woods, are well suited for this purpose. Draw over this a moderate ridge of earth. As soon as the tops show themselves generally above the surface, an inch or two high, ridge up with earth, again covering the top entirely, and repeat this in ten days or so, when the tops appear the second time. This will give a ridge of sufficient size, and *completes* the cultivation.

About the middle of April the potatoes are fit for use, and are to be dug daily, as required.

About the first of June, especially if the season be dry, the tops begin to fail and gradually die; the grass and weeds which spring up between the rows must not afterwards by any means be removed; otherwise, when deprived of the shade afforded by the top, the potato will become partially scorched or baked in the ground by the intense summer heat, which makes them watery, and causes them to rot. Protected by the grass and weeds, they remain fresh and sound, and will keep in excellent condition until frost.

It is generally conceded that the Irish potato cannot in our climate be kept through the summer out of the ground. For this reason, and possessing no value for stock, together with the preference which most southerners give to the sweet potato, it is not more cultivated.

The crop of 1849 was about 260,000 bushels.

There is a considerable consumption of the Irish potato in our cities aud towns convenient to the river, which are obtained from the Western States, at a price much below what they can be produced for here.

ECONOMY IN FARMING.*

Mr. Editor: I observe in the July issue of your valuable journal an article on economic cultivation, which ought to be set in letters of gold. No farmer of common observation but will admit its truth, but still there is that early training, those scenes of our boyhood, the veneration for our fathers who cultivated the same fields—these cling to us in our after lives.

But all things are changeable, and so with the soil; it behooves us to look about us when we can see the lee shore in the distance, and hear the low sound of the breakers as they dash on the shore. The present high price of labor and diminished crops will hardly balance the sheet. We have known men the past season not able to cut more than three hundred of hay per day. Value of hay, $2 50. Labor, $1 75. Profit to the land of 75 cents on one day's work. You may say this will do very well; but, brother farmers, we will show you another picture. By another system of cultivation a man will cut and house one ton of hay per day; estimate labor, $1 75; value of hay, $15; leaving a profit to land of $13 25; difference between the two systems, $12 50. So much is the difference in two days' labor.

But this is only a small item in a farmer's book. There are other crops as important as hay. We take, for instance, Indian corn. Many farmers make no more than twenty or twenty-five bushels per acre, and some, we are sorry to say, do not do that. The cost of working the crop, the land, &c., as labor is now, will not fall much short of $20. Estimate price of corn at $1 per bushel, $25; fodder, $5; making $30; leaving $10 to the land. In the making of this crop, the value of the land is diminished rather than increased for succeeding crops.

Fifty bushels of corn can be made with ease by good cultivation at the north per acre. Cost of cultivation, land, &c., $32; corn, $50; fodder, $10; leaving $28 as profit to the land. A difference between the two systems of $18 on one acre of land. This is quite a return for an extra outlay of $12. Now these are stubborn facts that will surely look the farmer in the face at the end of each year; but these are only two of the leaks in the farmer's ship. Many suppose that a

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* From the Plough, the Loom, and the Anvil.

farmer's thrift is told by the number of his half-fed animals about his yards. A grand mistake. Our motto should be, in this respect, more profit on one full-fed animal than two half fed, which will be found by balancing accounts.

The earth is formed of atoms. So by taking care of small things, we make a large pile in the end. The droppings of a single ox once is a matter, you might say, of small consequence; but if repeated six times in twenty-four hours we get 1,990 in a year—quite a pile. This being carefully composted with sods by the wayside, or mud from the swamp, rich in vegetable matter, and being combined with gasses, will produce four ears of corn for each dropping, making 7,960 ears of corn at 230 ears per bushel, or 34½ bushels of shelled corn, and the land left in better condition for succeeding crops.

But perhaps, after all that may be said, that the waste of manure, and the injudicious application of the same to the soil, is the largest leak in the farmer's ship, and would end in a failure in most other pursuits.

A few days' extra labor in dull weather in the collection of turf, mud, and in fact, the waste of all things that are lying waste about almost all farms, would add largely to the amount of our stock of manure, and cover our fields with a bountiful harvest. This crop, judiciously spent, will place us in a situation to make another equally as good. Now, the greatest thing we want is to make ONE GOOD CROP, and after, if it is well spent, we can keep along. Our theory is, that the change of one plant will produce another.

D. L. HARVEY.

EPPING, *August* 6.

EDUCATION OF FARMERS.*

The notions are becoming obselete that the cultivation of the mind and the cultivation of the soil are antagonistic, and that education is due only to "the professions."

It belongs to our strong-minded farmers to work a still greater reform in their midst. As improvements are made in agriculture, it becomes necessary, if a farmer would take respectable rank in his class, that he should be intelligent upon subjects relating to his department of industry; for the belief is becoming more popular every day, that the farmer who has his mind well stored is pretty sure to have his barns well stored also. This belief, perhaps, more than any other cause, has aided in carrying the weekly and monthly periodical to the country fireside, and made sale for thousands of volumes on agricultural science.

As a thirst for knowledge increases with its gratification, study and research in one department of science naturally creates a desire to extend the range. If farmers will encourage such desires in their children, mental culture and refinement will be found to adorn the social circle in the country as well as in the city. Indeed, there is no class more favorably circumstanced than the agricultural for enjoying the true pleasures which general intelligence affords. With homes of taste where they might enjoy their hours of repose, with companionship that elevates and refines, the sons of the farmer would not think their dignity and respectability increased by being permitted to stand behind a city counter measuring laces and silks.

It is quite common for complaints to be uttered, that country people do not hold the position which they ought; that they are looked down upon by other classes. For this farmers are themselves responsible to a great extent. Let them manifest as much zeal and care upon the improvement of their families as they do upon their blooded stock; let not the poetry of life be all crushed by sweat and toil; let them give liberal patronage to literary and scientific institutions; then will the wealth which an intelligent understanding of the principles of agriculture brings, and the power which knowledge gives, place the farming class where no derogatory comparisons can, with truth, be offered.

The discoveries of the last few years have elevated agriculture almost into the rank of exact sciences. Certain conditions being given, the intelligent farmer knows precisely what to do in order to accomplish desired results. Proofs of the advantages which such enjoy may be deduced from the many letters which are

* From the Plough, the Loom, and the Anvil.

daily published, written from various parts of the country, asking for information concerning the treatment of lands, &c. Did the writers of many of these letters possess, in connexion with their practical skill, a knowledge of the organized sciences and their handmaid, chemistry, they would be capable of giving the information sought instead of asking it.

The great principle upon which scientific agriculture is based, is this "Not a particle of matter can be created, not a particle can be lost." It is on this principle that manures are applied to soil, that crops are varied, that old and exhausted lands are renovated.

But the economical and intelligent husbandman has no exhausted fields. He knows the elements of plants to be few, and the stimulants he can generally command, to a great extent, from his own resources. In studying the laws of chemical and vital philosophy, he has wide scope for observation, and for controlling the processes of decomposition and recomposition to the accomplishment of specific ends. From spring to autumn, from autumn to spring, his broad acres are his laboratory and observatory. He sees in the death and decay of one season elements for the beauty, brightness, and wealth of the next.

In this country there is no position too high for the aspirations of the intelligent and successful farmer. Has he by his own toil subdued the land, and by his acquaintance with nature's laws reaped golden harvests, he finds himself secure in the possession of two means for controlling men. First, that "willingness to know his work and do it," which Carlyle says is the mission of every man, and which forms a strong link of brotherhood with those who are delving. Second, he possesses wealth, which has a charm to open a passage to the hearts of a certain class. If, added to these, he has that intelligence which commands the respect of cultivated persons, he possesses perhaps greater power than any other man for gratifying an honorable ambition. The people regard him as their own, they look up to him, and are willing to crown him with the wreath of honor.

JUNE ISLE.

COTTON CROP OF 1855.

The following is the regular annual statement made up by the New York Shipping List on the 1st September. We incorporate it, as usual, in our pages:

NEW ORLEANS.

Export—	Bales.	Total.
To Foreign Ports	1,067,947	
Coastwise	202,317	
Stock, 1st September, 1855.	39,425	
		1,309,689
Deduct—		
Rec'd from Mobile, Montgomery, &c.	32,087	
Received from Florida	4,147	
Received from Texas	16,690	
Stock, 1st September, 1854.	24,121	
		77,045
Total 1855		1,232,644
Total 1854		1,846,925

MOBILE.

Export—		
To Foreign Ports	340,311	
Coastwise	112,792	
Consumed in Mobile	1,683	
Burnt at Mobile	603	
Stock, 1st September, 1855.	28,519	
		483,908
Deduct—		
Received from New Orleans and Texas	35	
Stock, 1st September, 1854.	29,278	
		29,313
Total 1855		454,595
Total 1854		538,684

TEXAS.

Export—	Bales.	Total.
To Foreign Ports	16,160	
Coastwise	64,720	
Stock, 1st September, 1855.	2,062	
		82,942
Deduct stock, 1st Sep., '54		2,205
Total 1855		80,737
Total 1854		110,325

FLORIDA.

Export—		
To Foreign Ports	35,018	
Coastwise	101,996	
Stock, 1st September, 1855.	166	
		137,180
Deduct stock in Apalachicola, 1st Sep., '54		583
Total 1855		136,597
Total 1854		155,444

GEORGIA.

Export—		
To For'gn Ports—Uplands.	176,194	
S. Isl'ds.	6,993	
Coastwise—Uplands	196,714	
Sea Islands	7,474	
Stock in Savannah, 1st September, 1855	2,130	

	Bales.	Total.
Stock in Augusta, 1st September, 1855	1,707	
		390,212
Deduct stock in Savannah and Augusta, 1st September, 1854		11,518
Total 1855		378,694
Total 1854		816,005
SOUTH CAROLINA.		
Exp'ts from Cha'ston—		
To For'gn Ports—Uplands.	296,798	
S. Isl'ds.	18,680	
Coastwise—Uplands	198,453	
Sea Islands	5,771	
Burnt at Charleston	371	
Stock in Charlest'n, 1st September, 1855	2,085	
		522,158
Exp'ts from Geo'town—		
To Northern ports	4,500	
		526,658
Deduct—		
Received from Florida	2,887	
Received from Savannah	7,468	
Stock in Charlest'n, 1st September, 1854	17,031	
		27,386
Total 1855		499,272
Total 1854		416,754

NORTH CAROLINA.	Bales.	Total.
Exports—		
To Foreign Ports	59	
Coastwise	26,080	
		26,139
Total 1854		11,524
VIRGINIA.		
Export—		
To Foreign Ports	1,459	
Coastwise, and Manufact'd (tk'n f'm Ports)	29,741	
Stock, 1st September, 1855.	550	
		31,750
Deduct stock, 1st September, 1854		750
Total 1855		31,000
Total 1854		21,936
Rec'd at N. York by N. Y. & Erie Canal.		377
Do do 1854, 1,182		
Rec'd at N. York by N. Y. & Erie R. R.		684
Do do 1854, 2,258		
Rec'd at Balt. & Phil. from the S. & W.		6,600
Do do 1854, 8,990		
Total crop of the U. S., 1855		2,847,339
Do do 1854		2,930,027
Decrease from last year..bales..		82,688
Decrease from year before..do...		415,548

Comparative statement of growth.

Crops of—	Bales.	Crops of—	Bales.	Crops of—	Bales.
1854–'55	2,847,339	1843–'44	2,030,409	1832–'33	1,070,438
1853–'54	2,930,027	1842–'43	2,378,875	1831–'32	987,477
1852–'53	3,262,882	1841–'42	1,683,574	1830–'31	1,038,848
1851–'52	3,015,029	1840–'41	1,634,945	1829–'30	976,845
1850–'51	2,355,257	1839–'40	2,177,835	1828–'29	857,744
1849–'50	2,096,706	1838–'39	1,360,532	1827–'28	720,593
1848–'49	2,728,596	1837–'38	1,801,497	1826–'27	957,281
1847–'48	2,347,634	1836–'37	1,422,930	1825–'26	720,027
1846–'47	1,778,651	1835–'36	1,360,725	1824–'25	569,249
1845–'46	2,100,537	1834–'35	1,254,328	1823–'24	509,158
1844–'45	2,394,503	1833–'34	1,205,394		

Exports to foreign ports from September 1, 1854, to August 31, 1855.

From—	To Great Britain.	To France.	To North of Europe.	Other For'gn p'ts	Total.
New Orleans	717,328	178,823	62,632	109,164	1,067,947
Mobile	215,248	111,090	8,357	5,716	340,311
Texas	8,926	1,570	5,664		16,160
Florida	28,068	5,320	1,630		35,018
Savannah	171,993	8,106	3,088		183,187
Charleston	204,102	70,656	13,700	27,020	315,478
North Carolina	59				59
Virginia			1,459		1,459
Baltimore	1,491		91		1,582
Philadelphia	300				300
New York	200,967	34,366	37,124	7,378	279,835
Boston	1,234		1,555	84	2,873
Grand total	1,549,716	409,931	135,200	149,362	2,244,209
Total last year	1,603,700	374,058	165,172	176,168	2,319,148
Decrease	54,034		29,972	26,806	74,939
Increase		38,357			

Consumption.

			Bales.
Total crop of the United States, as before stated			2,847,339
Add—			
Stocks on hand at the commencement of the year, Sept. 1, 1854:			
In southern ports		85,486	
In northern ports		50,117	
			135,603
Makes a supply of			2,982,942
Deduct therefrom—			
The export to foreign ports	2,244,209		
Less, foreign included	891		
		2,243,318	
Stock on hand 1st September, 1855:			
In southern ports	76,644		
In northern ports	66,692		
		143,336	
Burnt at New York, Boston, and Philada.,	2,704		2,389,358
Taken for home consumption			593,584

Quantity consumed by and in the hands of manufacturers north of Virginia.

Crops of—	Bales.	Crops of—	Bales.	Crops of—	Bales.
1854-'55	593,584	1844-'45	389,006	1834-'35	216,888
1853-'54	610,571	1843-'44	346,744	1833-'34	196,413
1852-'53	671,009	1842-'43	325,129	1832-'33	194,112
1851-'52	603,029	1841-'42	267,850	1831-'32	173,800
1850-'51	404,108	1840-'41	297,288	1830-'31	182,142
1849-'50	487,769	1839-'40	295,193	1829-'30	126,513
1848-'49	518,039	1838-'39	276,018	1828-'29	118,853
1847-'48	531,772	1837-'38	246,063	1827-'28	120,593
1846-'47	427,967	1836-'37	222,540	1826-'27	103,483
1845-'46	412,597	1835-'36	236,733		

We give below our usual table of the amount of cotton consumed the past year in the States south and west of Virginia, and not included in the receipts at the ports. We have decreased the estimate, as a whole, from the year previous, but give it only for what it purports to be, an estimate, which, we believe, approximates correctness. Thus—

States.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.
North Carolina	15,500	20,000	20,000	13,000	1,500	20,000	20,000	18,500
South Carolina	6,000	15,000	15,000	10,000	10,000	10,000	12,000	10,500
Georgia	6,000	20,500	37,000	13,000	22,000	20,000	23,000	20,500
Alabama	5,000	7,000	6,000	4,000	5,000	5,000	6,000	5,500
Tennessee	12,000	12,000	12,000	8,000	7,000	5,000	6,000	4,000
Ohio, etc.	30,500	30,500	27,500	12,000	16,000	30,000	38,000	26,000
Total	75,000	110,000	107,500	60,000	75,000	90,000	105,000	85,000

To which, if we add (for the past year) the stocks in the interior towns, (5,000,) the quantity detained in the interior, and that lost on its way to market, (unusually large the past year—about 25,000 bales,) to the crop as given above, received at the shipping ports, the aggregate will show, as near as may be, the amount

raised in the United States the past season—say, in round numbers, 3,178,000 bales, (after deducting the 34,000 bales new crop received this year to 1st inst.) against 3,000,000 for the year 1853-'4; 5,360,000 for the year 1852-'3; 3,100,000 for the year 1851-'2; and 2,450,000 for the year before.

In reference to the consumption of cotton in the country the past year, both north and south, it will be seen that it has fallen off, althugh the production has been pretty nearly the same. This may be accounted for, primarily, by the partial failure of the crops of cereals in 1854, the consequent high prices of breadstuffs and provisions, and the general pressure for money felt by all classes in all sections of the country.

The quantity of new cotton received at the shipping ports to the 1st September amounted to 34,079 bales, against 1,890 last year, 716 in 1852-'3, and 5,125 the year before. Thus it will be seen that the quantity of new cotton received at the ports to the 1st September, this year, is largely in excess of the last; but it is an admitted fact that, at that date, there remained of last year's crop (detained in the interior by low rivers, caused by an unprecedented drought) a very large quantity—say 250,000 bales.

HEMP.

The cultivation of hemp prospers most in northern latitudes, producing a heavy and elastic lint, which adds to its strength and durability.

The production of this article in our country has reached a high limit. The demand for home consumption and exportation keeps pace with its growth.

The manner of growing and preparing it for market is simple. The land should be ploughed down in the fall to get the winter freezes, and when the ground will permit in the spring it should be cross-ploughed and well harrowed. The seed is sown broadcast, about two bushels to the acre, after which it should be brushed, and rolled in.

The earlier hemp is planted the more valuable and successful is the crop. Hemp is a plant which, after arriving to a certain height, supports itself in its growth from the atmosphere. It does not impoverish the soil as other plants. A sandy, loamy soil is best calculated to produce a good crop. Good bottom land will answer. It is known that land which has been in sod for a length of time will produce hemp for twelve years in succession. At the expiration of that period, if sown down in clover, and left standing for three years, it will produce for nine years longer.

At an early period, the mode of preparing it for market was to pull it up by the root, and also to cut it with a hook-shaped instrument, each of which processes was very laborious. In late years an improvement has been made by the use of the cradle, which reduces the labor. The mode of preparing it after it is cut is as follows: It is bound up into sheaves, and thrown into shocks. For water-rotting, it should be kept from exposure to the weather, which tends to discolor it, and thereby reduce the value. The process of water-rotting is to immerse it in pools of standing water, or so constructed as to allow the water to pass in and off, as occasion may require. The hemp should remain in the pool until the stalk becomes saturated. When this is finished the stalk will break short off, or the mucus, which holds the lint to the stalk, will become macerated, and rise on the surface of the stalk.

The time occupied for this process will require, in the months of August and September, from four to six days. It should then be taken out of the pool and spread thinly down on the ground. After drying, it should be thrown into shocks, well secured at the top, to prevent the weather from penetrating the centre, and should remain in that condition until the frosty weather arrives, to allow its breaking out. Various modes for breaking it out by machinery have been used, but the most general is the hand-break.

The dew-rotted hemp is spread on the ground in the months of November and December, and remains so until, from the effects of the dew and rains, the stalk becomes brittle and relieves the lint, which is then taken up and thrown into shocks, and afterwards broken out.

Hemp-growing is profitable, being an immediate crop, which does not interfere with the general duties of the farmer, or with his attention to other crops. A crop of water-rotted hemp is double in value to a dew-rotted one. The expense

in preparing the former is not more than twenty-five to thirty per cent over the latter.

Hemp will generally command the cash and a ready market. The average yield to an acre is about 800 pounds. For water-rotted, the price at the farmer's door for a good quality, in ordinary times, is eight dollars per 112 pounds, or for dew-rotted ranges from four to five dollars per 112 pounds. D. M.

HOW THE SOUTH PROGRESSES.*

The New York city press seem to be astonished at the business being done just now by the ocean steamers plying between that city and the different southern Atlantic and Gulf ports—at the quantity of produce and number of passengers they are transporting. The receipt of wheat in any large quantities from ports south of Alexandria and Richmond seems to them a new commercial wrinkle, and one full of interest. They are rubbing their eyes over their increased receipts of that grain from Tennessee and Georgia via Charleston, and seem already to look forward to see the two States we name above become in a very few years the great wheat-producing region in the country. This state of wonderment at the natural and very plain result of the recent construction of the railroads to points tapping the heart of northern Georgia and Middle Tennessee, arises wholly from the fact that the conductors of the journals above referred to have adopted their ideas of the industrial capabilities of the southern people and climate from the foolish ranting of anti-slavery lecturers, editors, staticians, and politicians.

The railroads have at once produced results that are fast opening their eyes to the truth. That the people of the south do not labor so intensely as those of the north, arises for the most part from the fact that a given amount of labor at the south yields much richer returns in money and "kind" than at the north. Thus, the necessity for constant labor is not always before the eyes of the southern man, as before those of him at the north. The southern man, too, (as a class,) parts with the fruits of his labor much more lightly than the northern man does; as, the world over, that which is easily acquired is lightly valued, comparatively. These are facts which bear upon the comparative industry and thrift of the people of the two sections upon which the anti-slaveryites are constantly harping, taking due care to keep in the back ground not only the simple facts to which we refer, but another very important fact in the same connexion, viz: that though the north are the more industrious and thrifty, such a thing as suffering from want—absolute want—is almost entirely unknown in all the slaveholding States; while nearly every white man in them is an independent citizen in fact, as well as in name; such a thing as a capitalist or proprietor attempting to influence the votes of a number of his equals under the law, being a thing absolutely unheard of at the south. But we have no room for speculations upon the effect of the institutions of the two sections upon the actual condition of their respective inhabitants.

The flood of agricultural products from regions of the south, which have not heretofore sent them to the great markets, is but commencing. In eighteen months, or so, the the Virginia and Tennessee railroad connexions between the Potomac, at Alexandria, and Memphis will be completed, when the southwestern region of Virginia and eastern Tennessee will at once commence growing grain extensively for exportation, for which no other quarters of the country are better suited, and in which they have not engaged, up to this time, on account of want of facilities for getting produce to market. So, also, will all western North Carolina, and a large portion of northern Alabama, be, not long hence, very extensive growers of grain for exportation, as they, too, will shortly enjoy railroad facilities. The effect of railroads upon the industrial condition of Georgia is already realized by all who study such subjects, having astounded those in New York, especially, who deal in produce. It is but a type of what such improvements are destined to do for the whole interior of the southern States. One important result will be the prompt transfer of a very heavy amount of capital from the north to the south; because its employment there in agriculture, and other pursuits dependent

*From the Washington Star.

on agriculture progress, will yield almost double the profit, with, at least, as little risk as at the north, where competition has already greatly reduced profits in every business whatever. Mr. Clay's "American system" changed the relative commercial and industrial condition of the two sections of the confederacy wonderfully, and railroads are fast restoring the equilibrium thus disturbed.

CAN COTTON-SEED OIL OR ROSIN OIL BE MANUFACTURED WITH ADVANTAGE IN ALABAMA?*

If this inquiry could be answered affirmatively, it would be of immense value, as the materials are abundant and the uses great. There are very many objections, but it is by no means impossible, and greater have been overcome by skill, capital, and enterprise. Let us look at its magnitude. The State makes half a million bales of cotton, which, at forty bushels each, give twenty millions of bushels of seed; deduct therefrom for planting and other purposes one-fourth, and it leaves fifteen millions, worth 12½ cents, at home, $1,875,000. These fifteen millions, at 2½ quarts of oil to the bushel, would be 9,375,000 gallons, at 40 cents, worth $3,650,000, which would leave, after deducting cost and transportation, $2,650,000—a pretty round sum, having no drawback but starving the corn-crib.

Messrs. Smith & Follin, of Petersburg, Va., many years ago, patented a machine for hulling or cracking the seed, on the outward periphery of two granite rocks moving inversely to each other. The product was screened by machinery, and nothing but the kernels or inner contents used. These were mashed by one rock on its rim following another, and both pinned vertically to an upright turning shaft, and following in a groove or space chisseled out of a granite bed rock. The machine for grinding gold in rock ore is precisely the same, and the construction not beyond the capacity of an ordinary workman. The mashed kernels, pulp or meal, were put in coarse hair-cloth envelopes in mortars, and the pestle driven till all the oil was out. It is the same as the linseed-oil mill. The oil is a light pea green, and entirely inodorous, and answers well for paint, and probably all the other purposes for which vegetable oils are used. If it could be used for soap, as the palms and olives are, it would transfer that valuable manufactory to the plantation, and no one would need a better fortune than would follow it. I have seen the oil made, cooked with and used for painting, but I am not familiar with the subject. The objectious I saw were that the hulling mill was imperfect and gave trouble, but all the subsequent process gave none. This might be overcome by skill. The other objections are what you are probably a judge of. The cotton-seed must be sound, and our general practice is to throw it out in bulk, where it heats, spoils, and loses its oil. The secret is that its bulk is too great to bear transportation to or down the rivers. A mill was put up at Natchez, on the Mississippi, and one just below Mobile many years ago, and have been discontinued. If it can be put up advantageously, it will probably be by some large planter, who will save his seed properly and use it in the manufacture of soap made on the plantation, or ship it for paint-oil, and feed away the oil-cake to his stock. Five hundred bales of cotton would leave for use fifteen hundred bushels of seed, or 9,000 gallons of oil. I believe no pestling or pressing in any way has been found that can extract the oil from the seed without hulling. It may be worth the trial, and if it succeeds, the reward would be an ample compensation.

Our next inquiry will be, Can rosin-oil be made with profit here? This also is a matter of some moment. It has been calculated, though probably over estimated, that the crop growing would be one million of gallons of spirits of turpentine, and if so, at the usual proportion of one barrel to every ten gallons, there would be made this year 100,000 barrels of rosin weighing 310 pounds each. Each barrel should give twenty gallons of oil, and make 2,000,000 gallons, at 25 cents would be $500,000. The rosin hauled to the river pays the grower handsomely at one dollar, which is $100,000, and leaves $400,000 for labor and profit. Rosin, at present prices, is too low to bear transportation from so many who are not convenient to navigation, that a very large quantity will be run into pits near the still and thrown away. The supply will be still great. The manufacture is in iron stills, to hold each from 25 to 30 barrels, with guard iron bottoms, and the

* Alabama Planter.

heat made so high as to dissolve the rosin, and it runs into oil, and this is all. So much heat scales the iron and wears it out fast, not however to be much of an objection. The oil when made has some gumminess, and is used for ships' bottoms and sides, and out-houses and fences, with the admixture of some dryings, and is not fit for a fine house. With the admixture of a portion of lard-oil, it is used on locomotive axles and coarse machinery. Its principal use is in the illegitimate purpose of adulterating other oils, and for which it is largely used. I think there would be a limited demand for it in this country, at any rate till the experiments now going on may refine it so cheaply as to increase its use. It can be made at 10 to 12 cents a gallon, not including the barrel to receive it. The oil makes a brilliant gas, and has the advantage of being conveniently transportable. Gas made directly from rosin is as good and much cheaper, but the rosin is not so transportable.

A barrel of rosin that weighs three hundred and ten pounds will make two thousand cubic feet of gas, and four barrels thereof as much as a ton of coal. The apparatus, exclusive of the gasometer, will cost, packed and shipped at New York, under $500, and will make lights enough for the very largest hotel; and the saving in oil and candles would cover the outfit and manufacture many times in the year. The St. Nicholas Hotel, Broadway; the hotel at Sharon Springs, in the State of New York; and the Fanquier, in Virginia, are all beautifully and economically lighted with gas made on their premises from rosin. The gas is but the melting of rosin under a high heat, dripping into a red-hot iron pot closed up, or a retort with a pipe from it into the gosometer, which, as it comes in contact with the red heat, vaporizes, becomes gas, and passes into the gasometer for use. Any one sees the operation who sees a drop of water thrown on a hot stove. It disappears in the shape of gases.

A PLANTER.

ON THE COTTON GIN AND INTRODUCTION OF COTTON.

ANSWERS TO QUERIES OF THE HON. W. B. SEABROOK, OF EDISTO, S. C., BY KINSEY BURDEN, ESQ., OF JOHN'S ISLAND. (1844.)

Query 1.—Describe Eaves' gin—when was it invented, and how much cotton could it separate from the seed per day?

Answer.—I am under the impression that I have been informed Eaves' gin was invented and used first in the Bahamas, (or French West India Islands, where a gin of that kind was "long used,") and was brought by Eaves to Georgia, used there, and then to this State, or nearly simultaneous in both, about the year 1797-98. I have seen but one or two of the original gins in operation, and I cannot say, from my own knowledge, how much cotton they could separate; but I was informed about 300 lbs. They, however, did not answer the expectations of those *who used them at that time in this State;* which I have supposed to have been owing more to the careless or unskilful manner of constructing and working the propelling power than to the gin itself, as there appeared to be a defect in that respect in those which I saw at work. They were, however, thought, in this State, to tear and injure the long staple cotton too much. I consider Mr. Farris' gin Eaves', with some slight improvement.

Query 2.—Who sent to Europe the first bag of cotton, and in what year? In what year was it grown as an experiment, and by whom?

Answer.—Your second inquiry, I think, has been fully answered in my reply to your first letter; and I believe I am safe in saying, if any long staple cotton was shipped to Europe from South Carolina before the joint crop of my mother and Mr. James King, it was produced in Georgia or the West Indies, sent to Charleston, and shipped from thence to Europe; which I know to have been a common practice since.

Query.—How many acres to the hand were planted? And what was the usual quantity of cotton made to the hand?

Answer.—My own laborers usually planted from two and a half to three and a half acres of cotton to the hand, from one and a half to two acres of corn, and about three-fourths of an acre of potatoes.

Query 4.—Was manure used? If so, what kinds, and in what quantities?

Answer.—I cannot say what was the general practice on these points; I can only speak of my own and that of some others that came under my notice. I

have already said that I used a compost of lime and cow-dung in 1800; and this was mixed in the proportion of one-third lime to two-thirds of the other material, of which mixture about as much as would stand on a hoe or spade was placed to each hill and chopped up with the earth, so as to be well incorporated with it. In 1826, lime and other materials, as stated above. In 1803, I used lime alone. I have also used lime advantageously for corn, root potatoes, wheat, and rye. But when oats and the common field-pea was afterwards planted on the same land, I noticed the oats and peas blasted on all the spots where the heaps of lime had been laid down. Whether this effect on oats and peas was caused by the earth in those spots having been stimulated to exhaustion by the lime, or there is something in lime not suitable when applied to those plants, I am unable to say.

Some years ago, I urged two planters, who resided in the limestone region of this State, to use lime on their exhausted lands, but I have not heard whether they tried it.

I have long been under the impression, that if *lime*, and marl *rich in lime*, (but lime calcined by fire I prefer, as a purifier of the air,) were used freely throughout our State as a manure, that not only would the product of the fields be much increased, but the general health of the inhabitants would be improved, and more so if connected with *deep drainage*, both open and under, where the land is too quaggy for open drains. This has been the result with my own plantation on this island since I began to drain deep, and limed my lands occasionally, in the course of thirty-six years since, their healthiness has been improved. It has been said by a certain writer, (I think Dr. Anderson,) that sheep pastured on lands that have been limed will never have the rot. This I have proved correct, my sheep have been comparatively very healthy, while some of my neighbors at different times have lost a large part, and others all their flocks, by the rot or some other disease. After liming a field, I have frequently smelled the lime in the wind at a distance. Under the belief of the purifying effect of lime on the atmosphere, I suggested to the mayor of Charleston to strew it freely in the streets when the cholera appeared there.

In the year 1803, Mr. James King saw me draining the ponds (before this time the ponds in the fields were not considered worth draining, the custom was to plant to the edge of the ponds, and leave the ponds surrounded with trees or bushes, and thus were many fields seen studed with these clumps, holding water, and obstructing the free circulation of the *air*, so beneficial to the health of the inhabitants, and the crops,) in my field, previous to planting them in cotton, and invited me to go and see what he was doing with his ponds; accordingly I found him carrying the pond-mud into his cotton field as a manure, when I remarked to him, that I considered marsh-mud better, as it contained a portion of salt and lime. Some years after he tried the marsh-mud, and was thus the first to use it as a manure for cotton. I do not recollect the year in which his experiment with it was made. Having to clear land for several years, to make a change of fields, I did not use marsh-mud so soon as Mr. King used it in his fields. Several persons went to see the effect it produced in his fields, and it was soon after generally used. I have heard my mother say, that the year after the great hurricane of 1752, my grandfather's field on Burden's Island produced a most abundant crop of corn and peas; and the increased fertility of the soil was attributed to the overflow of the land with salt water, and the alluvial deposit. In the storm of October 1804, a part of my cotton field and corn field also was overflowed. The next year both cotton and corn were very much improved as far as the salt water had covered the land. The Bible, that *only sure guide* to eternal life, also gives us useful hints upon almost every occupation of man. And thus, whilst Christ was preaching to the Jews, near two thousand years ago, He said "Ye are the *salt of the earth*, but if the salt has lost its savor, *wherewith shall it be salted?*" which shows, that the people to whom he was preaching, were familiar at that time, with the use of salt for their land. My stable is near to the margin of the high land; the manure is thrown in a pile where the spring-tides reach it; for many years I have had the salt water thrown over it, before it was carted out; from 16 to 28 single cart-loads per acre, of this compost spread over the listing, improves the cotton very much; particularly in cold-black, and grey lands.

The practice of manuring was not generally adopted I believe until after 1806. In 1805–6, I removed to this island,* and at that time the extent of the manuring

* John's Island, S. C.

appeared to consist in moving cow pens over the potato patches, and using cotton seed for the corn; but for cotton a change of fields, and rest to the land for one or two years, the planters, generally, appeared to depend on for a crop; one individual told me he had cured spots of rust with green salt-marsh; another said he had used pine-trash on spots of his weak land with advantage. I manured with compost from the stock pens in the mode now generally pursued, or with the simple green, or decayed vegetable matter, (as rushes, marsh-sedge, pine-trash, &c.,) spread along the ground and listed in; or, on the list, and bedded on, where there was not much vegetable growth on the land; in the proportion of 16 to 84 single cart loads per acre. Marsh-mud I have applied in the same proportion, cotton seed from one peck to two pecks for each row of 105 feet, scattered over the land and listed in; but it was generally used at that time for corn only, and put into the hills.

Query 5.—Was the plough employed in the cultivation of the crop, as well as in breaking up the land?

Answer—I have been informed, one or two persons used the plough on this island after the revolutionary war, but soon laid it aside. The plough was very unpopular in this region with our best planters for many years; the prejudices against it were very strong, until of late years. It was used by my father, and after his death I saw it in use by my mother's direction; but not again until about the year 1803, when I observed it in use with Dr. John Mitchell of Willtown. He used the Dutch-shovel plough with advantage, and offered me two of that kind, which I accepted and continued to use occasionally; I afterwards supplied myself with other ploughs of different forms—the bar-shear, for breaking up land with a heavy sward; the narrow bull-tongue, for breaking up stiff clay land, and tracking out land, with which six acres per day can be done by one man and horse, while with the hoe, the usual quantity for one hand is three acres; also for tearing out joint-grass spots, and nut-grass; a rake plough to collect the grass into heaps, after the bull-tongue; the Dagon, Freeborn, and half shovel ploughs for bedding land, and partly to attend the crop; and the trenching plough for small grain. In bedding land with the plough, I have found that half an acre can be finished off with the hoe afterwards, with as much ease as a fourth without the assistance of the plough, and that the land was better prepared for the seed. Four acres can be done, with one plough to throw up one furrow on each side of the bed, after the plough; one acre to the hand can be done, to haul up the bed, and hill the cotton or corn.

Query 6.—How often was the crop worked, and how late in the season?

Answer—This depended on the faithful manner of doing the work; whether the season was wet or dry; whether the land planted was new, or had been at rest one or two years; or land that had been cultivated annually. If the work was faithfully done, the season dry, and the land fresh, the grass was less, the plants grew faster, and shading the land sooner, required less work, and the crop was laid aside sooner. If otherwise, the plants grew slower, were more subject to the depredations of grubs and bugs, and it was more difficult to get an early good stand of plants. There was also more grass to contend with, especially if grass or weeds had been permitted to go to seed in that field the preceding year. My rule has always been to work the crop while there was grass to take out. After the pods begin to form, and the lateral roots to shoot out from the tap-root, it is ruinous to the crop to hoe deep. If the cotton is tall, it is safer to pull out the scattered grass, weeds, and late cotton with the hand; the earth shake cleanly off, and place them in hands-full on the top of the bed between the hills, where they will soon rot down, and add something to the growth of the crop. In the year 1812 I visited my plantation at John's Island, about the first of September, when there was a tolerable blow of cotton on the lower arms. I found my driver had not finished his last hoeing, 12 acres being left; the field was wet and the grass was small, and chiefly in the alleys. I ordered him therefore to break off, and put the people to gather the cotton that was open. At the end of the year, the line was distinctly marked where the hoes were stopped—the cotton not hoed became very grassy, the pods were small and produced but little.

Query 7.—Were the ridges made permanent, or changed as often as the cotton was planted? Were they large or small, narrow or broad?

Answer—The general practice was to change the ridges as often as the land was planted, with some few experimental exceptions; one in 1802 I have already given you. The ridges were generally made broad and flat in high land; large and

high in flat land, and finished off large and high in both, when the crop was laid aside, forming the sharp edge of a triangle in the centre of the alley; but it was not always that the overseers or drivers obeyed this order, and there were some deviations from this rule by individual planters themselves.

Query 8.—What were the usual prices obtained?

Answer.—I have already given you the answer to this in my first, and in the preceding part of this letter, in extracts taken from my plantation books, and other notes.

Query 9.—Was it the practice to reject all cotton covered with fur or down, and to preserve only the pure black-seed?

Answer.—The general practice, until about the year 1826, was to wray off all the coated seed, and reject all but the black-seed. Since 1826 many persons planted the coated seed; I planted it myself for several years, but found it too troublesome and laborious to gin out, and have again rejected it.

Query 10.—Did all planters get the same price? If not, was the difference attributable to preparation, or superiority of staple?

Answer.—All persons who cleaned their cotton well obtained the same price for several years after the introduction of cotton as a crop; but afterwards the purchasers began to discriminate. The cause of difference was two-fold, it being in some cases attributable to the cleaning, in others to the superior staple, and in some to both causes.

Query 11.—How were the bags packed? Was the screw resorted to? Was the green-seed cotton packed with the pestle?

Answer—Both green and black-seed cotton was packed with the pestle for several years; afterwards the screw was resorted to *by large planters*, for the green-seed cotton.

Query 12.—Was the ginned cotton well prepared for the bag? Was the whipper used?

Answer.—The ginned cotton, by some planters, was well prepared; by others it was not well prepared. Some prepared it by switching it on a square net fixed on a frame; others used a small *rude* whipper, with one barrel; others used neither. I projected an improvement on that whipper, which was executed for me by Mr. John Bernie—the double-drum whipper now in common use. I gave him the benefit of the improvement, and paid him fifty dollars each for three of them which he made for me.

Query 13.—What was the daily task of a laborer with the hoe, making the ridge hoeing? or were the negroes worked in gangs?

Answer.—In listing land, if the land had a heavy sward the task was one-fourth of an acre; if only one year at rest, and lighter, one-third of an acre; if it had been cultivated the year before, half an acre; unless there were in it large cotton stalks, or there were some other good reason for deviating from the general rule. In ridging, one-fourth of an acre was done, unless the plough was used. In hoeing, half an acre.

I have only worked the people in gangs when planting and gathering the crop. I have heard of some individuals, planters, working in gangs, but I believe it was practised by very few.

Query 14.—What was the weight of the bags?

Answer.—I have taken from an old weight-book of Messrs. R. & T. Burden, factors, for the year 1803 the average weight of the cotton bags of twenty-eight planters, myself among them, and found it to be 258 27-28, which was about the fair average weight of the cotton bags about that time. I have also given you among the preceding extracts a later average of my own cotton bags for 1807, 302 6-46 lbs.; in 1808, 275 10-27 lbs.; and in 1809, 375 13-26 lbs. Other crops have probably been packed in the same rates.

Query 15.—What were the diseases of the cotton-plant? Did any insect depredate on the cotton-plant? If so, enumerate and describe them?

Answer.—The common rust, caused by an impoverished soil, and in some cases by the opposite extremes of excessive hot, dry or excessive wet weather, prevailed very much, and was the only formidable disease the cotton-plant was subject to for many years. There was, however, another disease, less extensive, which some planters named the "blue rust," and which was developed in what are called "alum spots." Latterly, "the yellow leaf" has been noticed—a disease more formidable than either of the preceding; in some seasons pervading every part of the field. It commences with the long leaves turning yellow and falling off, and

The whole plant becomes diseased. It may properly be denominated the "canker." A partial canker, also, produced by external injuries to the cotton-plant in its young state, which corroded, and caused the plants to break down near to the ground.

Among the depredating insects, I mention the grasshopper, which in some years is very numerous and destructive to the cotton while in its young state; the very small insect, generally called the bug; the cut-worm; and the caterpillar described above.

Query 16.—In what year did the caterpillar first make its appearance; what was the damage done? Is the caterpillar the same worm that depredated on the indigo plant?

Answer.—This question is answered in the extracts given of the crops of 1802, 1804, 1822, and 1825, in the preceding part of this letter.

I have found it impossible to circumscribe the information you have requested within the concise compass you have mentioned, to make the account intelligible; I have, therefore, been more prolix than I wished. Your third letter has been received, and will be replied to. I have no objection to your publishing my first letter.

FLOUR EXPORTS.

We have compiled from Treasury reports the following table of export and destination of flour from the United States. It affords a sort of chart of the direction which the flour export trade has taken at times:

Destination of flour shipped from the United States..

Where to.	1851.	1852.	1853.	1854.
Swedish West Indies	5,315	8,050	2,301	600
Danish West Indies	50,102	52,592	50,332	31,056
Dutch East Indies	1,873	2,040	2,025	350
Dutch West Indies	19,217	17,570	18,952	13,489
Hanse Towns	.....	38,635	1,735	11,686
Holland and Belgium	594	14,660	925	26,980
England	1,004,783	1,531,994	1,378,065	2,026,021
Gibraltar	195	4,415	2,169	13,206
British East Indies	1,600	3,506	1,194	544
British West Indies	294,731	305,791	359,184	261,369
British American Colonies	252,380	199,560	218,475	225,006
Australia	.....	10,464	177,325	79,416
France	.....	2,700	8,784	728,279
French West Indies	7,902	7,652	7,901	31,259
Hayti	43,867	42,902	50,421	56,121
Cuba	5,511	17,200	1,537	11,608
Spanish West Indies	2,285	7,949	1,967	6,070
Madeira	7,006	8,287	9,200	4,360
Cape de Verds	838	835	277	4,721
Cape of Good Hope	.....	13,993	23,050	10,254
Mexico	14,964	25,081	17,039	13,828
Honduras	5,912	6,231	8,107	4,241
Central America	2,573	5,670	2,789	2,332
Colombia	47,477	53,257	43,881	42,097
Brazil	374,711	345,025	433,843	315,319
Argentine Republic	22,612	12,942	24,315	27,236
Chili	4,327	6,836	10,870	3,859
South America	200	1,480	9,644	356
West Indies	4,079	765	1,650	.....
Africa	5,430	9,993	6,838	3,533
Northwest Coast	2,593	7,837	5,544	9,783
Other ports	19,158	49,347	44,579	57,120
Total barrels	2,202,335	2,799,339	2,920,918	4,022,386
Average price	$4 77	$4 24	$5 10	$6 88

The return is for the year ending June 30, 1854. In that year, as in 1847, France was a good customer for flour, but England, as usual, took about half the whole. It is to be observed that the quantities sent to the West Indies, South America, &c., is in the aggregate about half, and it is what they *must* have. When there is an English demand to raise the price they must pay more. The above table embraces flour only. The aggregate quantity of flour and wheat exported in 1853 was, in bushels, 18,900,000, at an average of $1 12½, and last year it ranged 28,148,595 bushels, at an average of $1 55. The following table gives the aggregate export and official value, showing the yearly average for several years:

Aggregate export of flour and wheat from the United States.

Year.	FLOUR.			WHEAT.		
	Barrels.	Value.	Ag. value bbl.	Bushels.	Value.	Average.
1847..	4,382,496	26,133,841	$5 95	4,399,951	6,049,350	$1 37½
1848..	2,119,393	13,194,109	6 22	2,034,704	2,669,175	1 30
1849..	2,108,113	11,280,582	5 35	1,527,534	1,756,848	1 15
1850..	1,385,448	7,098,570	5 00	608,661	643,745	1 07
1851..	2,202,335	10,524,331	4 77	1,026,725	1,055,732	1 00
1852..	2,799,329	11,869,143	2 24	2,694,540	2,555,209	95
1853..	2,920,918	14,783,294	5 60	3,890,141	4,354,403	1 12½
1854..	4,022,386	27,701,444	6 88	8,036,665	12,420,172	1 55

Nearly all the wheat went to France and England. The above figures give, however, only the quantities of domestic growth exported. The following show the imports, mostly Canadian, and exported from bond:

Year.	WHEAT, BUSHELS.			FLOUR, CWT.		
	Imports.	Exports.	Excess retained.	Imports.	Exports.	Excess retained.
1851....	1,237,856	184,107	1,053,749	586,379	312,925	273,454
1852....	870,889	451,874	419,015	496,201	486,075	10,126
1853....	862,295	605,931	257,364	517,931	461,326	56,605
1854....	1,277,352	053,798	345,554	531,798	492,989	38,809
1855....	2,196,650	1,097,113	1,099,547	777,728	616,206	161,522

It follows that, in 1853, about 1,400,000 bushels of Canadian wheat were imported and consumed in the United States, displacing as much of native growth which was exported.—*U. S. Times.*

INSECTS INFESTING THE COTTON PLANT.—NO. 2

(*See lithograph in October number.*)

1. The Cotton Louse.

When the cotton plant is very young and tender, it is particularly subject to the attacks of the cotton louse, (*Aphis?*) which, by means of its piercer, penetrates through the outer coating, or parenchyma, of the leaf or tender shoots, and sucks the sap from the wound. The under part of the leaves or young shoots are the places mostly selected, and the constant punctures, and consequent drainage of sap, enfeebles the plant, causing the leaf to curl up, turn yellow, and subsequently wither away and fall to the ground. The young lice are extremely

minute and of a greenish color; but when they become older, they are about tenth of an inch in length, and often of a dark green, or, in some instances, almost black. I fancy the color somewhat depends upon the health of the plant, as well as that of the insect, or, perhaps, upon the food, as I have seen green and black lice promiscuously feeding upon the same plants. The female produces her young alive during the summer, when she may often be seen surrounded by her numerous progeny, sucking the juice from the leaves and still producing young. Some naturalists state that the females, late in the fall, produce eggs for the future spring generation. If so, it is in order to preserve the species, as the insects themselves are easily killed by cold and frost; and their increase would be incalculable were it not that kind nature has provided many enemies amongst the insect tribe to prevent their too rapid multiplication. Both males and females are said, at certain seasons, to possess wings, but the females and young in summer appear to be wingless. The end of the abdomen of both sexes is provided with two slender tubes, rising like horns from the back, from which exudes the "honey dew," or sweet gummy substance seen sticking to the upper sides of the leaves beneath them, and which forms the favorite food of myriads of ants. Although young plants are mostly attacked, yet I have seen old "stands" in Georgia with their young shoots completely covered with this pest as late as November.

The principal insects that destroy the aphis are the lady-bird, the lace-fly, and the syrphus, all of which wage incessant war upon the lice, and devour all they can find. Another fly, the ichneumon, likewise lays an egg in the body of the louse, which, hatching into a grub, devours the inside of the still living insect until it eventually dies, clinging to the leaf even in death, and the fly makes its appearance from the old skin of the aphis. A fuller description, however, of the enemies of the louse, together with figures, is given hereafter, plate 8. When old cotton plants are suffering from the attacks of the louse, many planters recommend the tops of such to be cut off and burned, and by so doing partially succeed in destroying them; yet, when we consider that by this method many young "blooms" and "forms" must likewise be destroyed and prevented from maturing, it must be confessed that the remedy is almost as bad as the disease. In a garden or greenhouse, a solution of whale-oil soap, from a syringe, showered upon the upper and under parts of the foliage, has been used with much advantage; yet, upon the extended scale of a cotton plantation, such a remedy is altogether too trifling and impracticable, and until we can collect further information from intelligent planters upon this subject, we must rest content with the instinct of our insect allies.

THE BOLL-WORM.—The egg producing the boll-worm is deposited by a tawny yellowish-colored moth, or miller, (*Heliothes?*) plate 3, during the warm evenings in summer and fall, and may be seen hovering over the tops of the cotton blooms from about an hour before until an hour after sunset. This moth flits frem flower to flower, depositing a single egg on each, which hatches in the course of three or four days, and the little caterpillar, or worm, immediately eats its way into the centre of the enclosed bloom, or boll, and after devouring the interior, escapes to a leaf, where it soon casts its skin. The ruined bloom in the meantime "flares" open and falls to the ground, and the young worm then attacks another bloom, or boll, in the same manner; and at length, as it acquires size and strength, it is enabled to bore into the nearly matured bolls, which are entirely destroyed by its punctures, as at this period, if the interior is not devoured, the rain penetrates the boll, and the cotton becomes rotten and useless. The caterpillar, after attaining its full size, descends into the earth, where it makes a silky cocoon, interwoven with particles of gravel and earth, in which it changes into a bright, chestnut-brown chrysalis. Those which went into the ground in September and October appeared as perfect moths about the end of November. Whenever a young bloom is seen in the field with the calyx spread open, it may be safely concluded that it has been attacked by the young boll-worm, and will soon perish and fall to the ground. If many of the fallen blooms are closely examined, they will mostly be found to have been previously pierced by this worm, or some other pest. Several intelligent planters have accused various other insects of piercing the young bolls, and thus causing them to fall; but during the short period of my sojourn, I could detect none in the act, except the boll-worm. There is a striking similarity between this and the corn-worm in appearance, food, and habits, both in the caterpillar and perfect state, which leads to the supposition that the boll-

worm may be the young of the corn-worm moth, and the eggs deposited on the young bolls as the nearest substitute for green corn, and placed upon them only when the corn has become too old and hard for their food. This fact, however, has not as yet been fully proved, but can easily be done next season by any intelligent planter who will try the experiment. Colonel B. A. Sorsby, of Columbus, has bred both insects, and declares them to be the same; and moreover, when, according to his advice, the corn was carefully wormed, on two or three plantations, the boll-worms did not make their appearance that season on the cotton; notwithstanding on neighboring plantations they committed great ravages. The worms vary much in color and markings, some being brown, while others are almost green; all, however, are more or less spotted with black, and slightly covered with short hairs. These variations of color, perhaps, may be caused by the food of the caterpillars, which appear in every shade between the two. The chrysalis is of a bright chestnut-brown, and the moths of a tawny yellow color. The upper wings are yellowish in some specimens, with a shade of green, but in others red. There is an irregular dark band running across the wing, about one-eighth of an inch from the margin, and a crescent-shaped mark near the centre of the wing. Several dark spots, enclosing a white spot, are also discovered on the margin. The under wings are lighter colored, with a broad black border on the margin, and also veined distinctly with the same color. In the black border, however, there is a brownish-yellow spot, of the same color as the rest of the under wing, which is more distinct in some specimens than in others, but may be plainly perceived.

It has been recommended to light fires in various parts of the plantations at the season when the first moths of this insect make their appearance, as they are attracted by light, and perish in great numbers in the flames; and if the first brood of females be thus destroyed, their numbers must necessarily be reduced, as it is highly probable that it is the second or third generation which does the principal damage to the crops. Some successful experiments in killing these moths with molasses and vinegar were made by Colonel Sorsby, a year or two since, which I will give in detail, in his own words: "We procured eighteen common-sized dinner plates, into which we put about a half a gill of vinegar and molasses, previously prepared, in the proportion of four parts of the former to one of the latter. These plates were set on small stakes, or poles, driven into the ground in the cotton field, with a six-inch square board tacked on top to receive the plate; each stake occupying an area of about three acres, and in height a little above the cotton plants. These arrangements were made in the evening, soon after the flies had made their appearance. When examined the next morning, we found from eighteen to thirty-five moths to each plate. We continued the experiment for five or six days, extending the plates over the entire field, each day's success decreasing until the number was reduced to two or three only to the plate, when it was abandoned as not being longer worthy of the trouble. The crop that year was but very little injured by the boll-worms. The flies were caught, in their eagerness to feed on the mixture, by alighting into it, when they were unable, from its adhesive nature, to make their escape. They were evidently attracted by the odor of the preparation—the vinegar, doubtless, being an important agent in the matter. As flies feed only at night, the plates should be visited late every evening, the insects taken out, and the vessels replenished, as circumstances may require. I have since tried the experiment with results equally satisfactory, and shall continue it until a better and more economical one is adopted."

SOUTHERN CONVENTION AT RICHMOND, VA., NOVEMBER 19, 1855.

We are rejoiced to perceive by the annexed notice that the standing committee have accepted the invitation of Richmond and fixed upon that city for the next meeting of the convention. We suggested this point ourselves in May last as the most eligible in every respect. Let the South now be active in preparing its delegations, for right sure are we that Richmond will know how to entertain them, and that all Virginia will be ready to aid in the deliberations of the Convention.

It will be remembered that the meetings of this body have been in Baltimore in 1849, in Memphis in 1850, in Charleston in 1850, and in New Orleans in 1851.

To the people of the Southern and Southwestern States: Among the last acts of the Commercial Convention at New Orleans, in January last, was the adoption of the resolution offered by the Rev. C. K. Marshall, of Mississippi, viz:

Resolved, That the acting President of this Convention be requested to appoint a committee of seven gentlemen, whose duty it shall be to fix upon the time and place for the next meeting of this body, and publish the same in the journals and newspapers for the information of the people, and that said President shall be chairman of the committee.

The following persons were appointed on said committee, viz: C. K. Marshall, of Mississippi, M. T. Johnson, of Texas, William C. Dawson, of Georgia, James Lyons, of Virginia, W. B. H. Howard, of Alabama, Leslie Combs, of Kentucky, John L. Lewis, of Louisiana, and the acting President, N. D. Coleman, of Louisiana.

The Board of Trade of the city of Richmond, Va., through their President, Hon. Horace L. Kent, has communicated to the chairman of the committee a copy of a series of resolutions adopted by the Board in session on the 4th day of June, 1855, two of which resolutions are in the following terms, viz:

Resolved by the Board of Trade of the city of Richmond, That we cordially extend an invitation to the Commercial Convention of the southern and western States, to meet in our city on such future day as, after consultation, may be deemed advisable for their next session.

Resolved, That the President of this Board be requested to communicate with the chairman of the committee appointed to select the place for the ensuing session of the convention, and transmit to him a copy of the above resolutions.

(A copy.) WM. B. ISAACS, *Secretary*.

In pursuance of the authority vested in the undersigned by the Commercial Convention of the southern and western States, held in the city of New Orleans in January last, and of the polite and official invitation of the Board of Trade of the city of Richmond, in Virginia, the committee has selected the said city of Richmond as the place, and the third Monday (the 19th) of November next, as the time of holding the next session of said southern and western Commercial Convention, unless the Board of Trade may prefer some other day, of which they will give timely notice.

The committee also take the liberty of requesting all journals and newspapers friendly to these conventions to publish this communication, or such parts thereof as may be requisite to give general notoriety of the time and place selected.

N. D. COLEMAN, *Chairman for the Committee.*

THE SUGAR GROWTH IN LOUISIANA.

A friend in New Orleans writes as follows: I wrote you yesterday. I resume the pen to-day to correct a gross error which has crept into your September number. At page 353, it says: "*and in the year* 1765 *there was sugar enough manufactured for home consumption, and in* 1770 *sugar had become one of the staple products of the colony.*" Where the author got his authority for so stupendous an assertion the ghost of Munchausen alone could tell, if summoned by the spirit rappers. There was not a pound of sugar made in the colony at the time mentioned.

Judge Martin, who came very early to Louisiana after the cession, and who had the best means of information, for he could get it from a large number of men who were personally acquainted with the state of the colony in 1765 and 1770, thus writes on the subject in his history—page 125, 2d vol.

"Since the year 1766 the manufacture of sugar had been *entirely abandoned* in Louisiana. A few individuals had, however, contracted to plant a *few canes* in the neighborhood of the city. They found a want for them in the market. Two Spaniards, Mendez and Solis, had lately made larger plantations. One of them boiled the juice of the cane *into syrup*, and the other had set up a distillery in which he made indifferent *taffia*."

A *few canes* for the market—*syrup*, *taffia*—but no *sugar*, as you see.

The same author continues: "Etienne Boré, a native of Illinois, who resided about six miles above the city, finding his fortune considerably reduced by the failure of the indigo crops for several successive years, conceived the idea of re-

trieving his losses by the manufacture of sugar. *The attempt was considered by all as a visionary one.* (Why visionary, if good sugar had ever been made in the colony?) His wife, (a daughter of Destrehan, the colonial treasurer under the government of France, who had been one of the first to attempt, and one of the last to abandon, the manufacture of sugar) remembering her father's ill success, warned him of the risk he ran of adding to instead of regaining his losses, and his relations and friends joined their remonstrances to hers. He, however, persisted; and having procured a quantity of canes from Mendez and Solis, began to plant."

This was written at a time when instant contradiction would have been given to the author if he had, in the slightest degree, swerved from the truth.

At page 131, the same author observes: "Boré's success in his first attempt to manufacture sugar was very great, and he sold his crop for twelve thousand dollars. His example induced a number of planters to plant cane."

The fact is, that before Boré's success a sort of thick sweet paste had been made in Louisiana, but no sugar—at least what we now understand by the word sugar. The reason was that the juice of the cane did not *granulate*. My grandfather, Mr. Boré, was the *first* who succeeded. See page 349 of History of Louisiana, 3d volume. Yours, &c.,

CHARLES GAYARRÉ.

ON THE FORESTS AND TIMBER OF SOUTH ALABAMA.

I must be understood as speaking very generally, and without very accurate information, though perhaps sufficiently so for the object in view, which is to draw public attention to it. The pine, the white-oak, the live-oak, the cypress, and some others, are in very great abundance, and to some extent quite accessible to our commercial port. The pine occupies the space of about one hundred miles square, bounded by the seashore and the two adjoining States, and to appearance the largest and the finest body that you can well conceive. The wood is close grained and hard, with a small circle of sap, rising from seventy to eighty feet in height without a limb, having but little foliage, and makes the very best of timber for durability and hardness. It is the old yellow pine, and known botanically as the *Pinus palustris*. The pitch, or turpentine pine, has a coarser grain, is smaller, more crooked, with shorter body and deeper sap, with more foliage, is little in quantity, and makes an inferior timber. The streams that penetrate into this large body of superb old yellow pine timber have bars at their mouths too shallow for the sized boats required for its profitable transportation either to New Orleans or this place. The only exception is the Alabama river, and that comes in contact only at a few bluffs or through the small creeks leading into it. The Perdido and Fish have bars under four feet. The Pascagoula, with a wide mouth, passes more than five hundred miles, under the names of Chickasahaie, Leaf, and Bowie rivers, through the heart of this splendid forest, *but* the bar at its mouth is only about five feet, and so influenced on this tideless coast by the winds that this cannot be depended on. There are a few steam-mills on the coast dependent on a precarious supply of logs, and none in the interior, as the population is sparse and the navigation bad. There have been a few spars of the largest size furnished on contracts for the French and Spanish governments for their military marine. There have been none furnished for the use of our government. It will give some idea of sizes that the largest class of spar is required to be eighty-two feet long, twenty-nine and a half inches in diameter, eight-sided for one-sixth of its length, and then tapering with sixteen sides to twenty-five inches diameter at the small end, to be perfectly straight and free from knots, except small ones, and such as by the grain are made integral parts of the wood. The agricultural uses of this country are not great. It is very sparsely sprinkled over with small farmers, who have fine water, health, and fine stock range, but with little fertility of soil. The numerous deer and turkeys near the daily passage of the mail boats furnish them with sugar and coffee in exchange for their fine game for the tables of the wealthier residents of the city. This scarcely touched great body of most superb timber is all in the government ownership, and liable to entry at $1 25 per acre. Its value is in its hereafter.

The cypress are of two kinds, such as have rather larger size near the ground, with less foliage at their tops, with straight and smooth bodies, growing only on

the very richest land, and make the best timber. The other and more usual timber is fine. This wood, growing in swamps, and having such large bodies, cannot be hauled, and therefore is generally cut and left for the annual overflow, or freshet, when they are collected, floated, and rafted, to their place of sale. The usual price for mill-sawing is about fifty per cent. more than for the same quantity of pine. The wood is soft, and when well seasoned is principally used for the finer house works, such as doors, sashes, shutters, &c., &c. The selection of this tree is to be guided by its very smooth surface, as the slightest outward irregularity is sure to have a corresponding large defect within. There is a great deal that has the defect of being pecked, or having the look of honeycomb. It is a soft and durable wood, and much used.

The black cypress, so named from being of darker color, is a hard and heavy wood, sinking in water, never growing as large, and more the growth of the creek bottoms. It is not used for sawing, and not floating, cannot well be got at. It is generally used for posts, for which its exceeding durability recommends it.

The juniper, or white cedar, is also the growth of the smaller swamps on the sea coast, and though sometimes growing to three feet in diameter, may be considered a small growth. It is much used for shingles, staves, molasses barrels, and posts. It is a durable and very beautiful and soft wood, and is much used for doors, sashes, &c., and for models, being as soft and suitable as the red cedar. I think juniper root knees, from its toughness and durability, and its plank, from extreme lightness, would suit well for the whale boat and the fancy regatta craft. The supply is illimitable, and the price, sawed, would not be more than double that of pine.

The white oak is our great timber for naval and other purposes, and is the general growth of our swamps, and of great size and is very near to water navigation, to our seaport town, Mobile. The large body of it growing in the fork of the Alabama and Tombeckbe rivers, within 100 miles of our city, is conveniently reached by any craft not drawing more than twelve feet water, or that can lay at the wharves of the city. This tree grows often 40 and 50 feet high without limb, with straight body, exceeding five feet in diameter, and with so little taper as to square three feet at 50 feet in height. The roots make knees for the very largest class of ships, and of the hardest, closest-grained, toughest, and most durable wood. This should commend it to the attention of those engaged in the construction of our military and mercantile marine, and must do so in time. The bodies, when they will split, make the pipe-stave of four feet six inches long, and when they will not may be hewn into square timber. When the tree is intended for knees the large roots should be cut as the tree stands, at suitable distance from the body, and when down at such length of stump as the knee may require. The auger bored into the centre of the stump root makes the chamber for the powder which blasts it open, and all the rest is done by the maul and wedge and the broad axe. The present price is remunerating when for such quantity as justifies the expense of the proper equipments for transport to the river and conveyance to the city. The pipe-stave, at fifty dollars for 1,240, is also remunerating, but it uses up the forest very fast. It takes a very uncommon tree to make 500, and generally not more than half that. The stave should be 1 and 4 inches and 4½ feet long. There is much very smooth hickory scattered over these swamps that may be made into capstan-bars and hand-spikes, and that may find a market with the white oak. The ash, for oars, is tough only in the butt cuts, and are better gotten in the eastern States than here. Keep always in mind that oak is heavy, and grows on soft swamps, and without roads, and that your timber wheels and teams must be strong; that the conveyance by boat will be expensive; and that it can only be rafted on lighter wood, having two-thirds more of floating surface.

These forests, like the pine, have scarcely been touched, and look for their value to the future; though probably an early future.

The live oak is perhaps the hardest and most durable wood known, almost uninjurable, except from its own very acrid sap. Where it grows on free and dry uplands it is excellent timber, but by far the largest quantity grows on the small bayous close to the water, on the immediate coast. The little ponds everywhere in the pine woods are skirted by them. If when cut they show a speckled and soft grain within they are of no value. The other shows its quality by its close and compact grain. The practised eye decides on the moment that it lights on the live tree the quality of the wood. It grows to a considerable height without limb in the cane brake and dense wooded swamps immediately on the seacoast.

Growing alone it is a short-bodied, wide-spreading tree, giving every possible crook to branch and root to suit for knees of all sized vessels, from the very largest to the ship's yawl. Large quantities of this wood go from the south to the naval depots and ship-yards north, to be seasoned for our ships-of-war. To an urgent request from Pensacola that one of the six new frigates ordered to be built should be constructed there, the answer of the Secretary was, that he was sorry that there was no timber there. The timber for the Boston yard was, no doubt, got not far from Pensacola.

I have thus attempted to give some idea of our abundance of timber, and some of the uses to which it may now, and must in time, be applied. Let us conclude by saying that our seacoast has very many suitable situations for ship and spar yards, with unquestionable health, where oak bows and stems, ribs, transoms, and all else constituting the frame of ships, may be procured cheap, and delivered by boat, and where the pine planking and decking and for finish will be laid alongside at ten dollars per thousand feet. The rough labor, under the skill to direct, can be procured for steady employment at less price than that of the verage labor of the United States.

J. D. B. De Bow, Esq. A PLANTER.

THE SOUTHWEST.

Edwards, Mississippi, *August* 25, 1855.

My Dear Sir: Our friend and fellow-citizen by birth, Colonel A. G. Summer, is quite eloquent upon the great advantages our native State, South Carolina, has over the "magnificent dry rivers, the bayous, musquitoes, cholera, and yellow fever," of the west. All this is well enough to talk about, but we of the southwest think we have some country too, despite a multitude of evils. It is very true we have this year, 1855, dry rivers, and every year those annoyances, musquitoes, and withal we have a great many things to rejoice over. There are men who are fitted to enjoy just such lives as we lead out in these "wilds," and some of us are content—as man generally gets to be—and look not back to, nor sigh for the flesh pots we have left behind us. "Comparisons are odious." Carolinians might be stirred up to a greater exertion without attempting to disparage us. I hope "none will be offended" at the colonel's burning desire to incite the blood of our brethren to a more rapid circulation, for he means not to contemn us; the fact is, he only sees a newspaper scrap or two, where some few out of a few thousands cannot get to market to buy necessaries, he does not say they have not the means. I love to see his enthusiasm, his love of country, and no doubt were you and myself back among its red hills and sand-covered flats, we would hold up our heads and huzza for the chivalry too. But all this, "by the way," it is as sincerely desired by many of Carolina's sons who have expatriated themselves that Carolina should arouse herself, as it can be by the colonel himself, and many of us will aid him and others to our ability. The educated, the wealthy, the influential, should, by example and argument, urge a different course to that now pursued. Cotton on lands producing one to two thousand pounds per acre will pay; where the production is only five hundred to one thousand, will cause the people to leave. You may argue until doomsday to induce planters to remain, not to move where cholera and musquitoes kill and *then* eat up, but so long as so many of us live and make cotton after all these deaths, and can laugh at the fears of others, why folks will move.

"*Thirty-one bushels and one peck per acre*" of corn, and *twenty bushels per acre* of wheat, will pay better than our cotton fields.—(See crops made by A. G. S., in American Cotton Planter, pages 243, 244.) Corn yields about $45 and wheat $30 per acre, prices of 1855; this balances dry rivers. But seriously, is it not the interest of Carolina to grow grain, wool, stock, to lay down her broad lands to pastures and grain, convert her worn and gullied hill-sides into Burmuda grass pastures, feed thousands of sheep, raise mules for export, and leave to the rich lands of the west the growth of cotton. It is destiny, and no use to kick against it. Much of the same thing ought Georgia, Alabama, and Mississippi to do. Much of our lands are better fitted for rearing stock than for cotton. It is even true of Hinds county, with Big Black as a western boundary and Pearl on the east, fourteen or fifteen miles from the Mississippi, that she ought to do something else. By census report, with 164,457 acres of improved land, she

makes 19,829 bales of cotton, showing a bale to two acres, admitting one-half of improved land is in corn, pastures, and fields, or, showing not 700 pounds of raw cotton per acre; for there are some of us scattered up and down in old Hinds who have, for near twenty years, averaged full 1,200 pounds. Put down 80,000 acres in corn, and the product in 1850, 853,305 bushels, is the smart crop of some ten bushels per acre—an error in giving in returns, unquestionably, but nevertheless it shows that even here we should rally and attend to our business as it should be.

But the pecuniary question is not the main question—we are not placed on earth for money matters alone; a higher destiny awaits us. We should improve that we should elevate our position. As a country becomes possessed of comforts our population is elevated; we should, therefore, strive for an independency of our country. When we are not dependent upon the north, or the west, or the east, for bread, or meat, or shoes, or hats, or clothing, &c., &c., then will those countries have less to do with us, and less cause to meddle with what concerns them not, and we in better condition to return a Rowland for their Oliver.

Yours, truly,
M. W. PHILIPS.

J. D. B. De Bow, Esq.

TENNESSEE AGRICULTURE.

On the subject of agriculture Governor Johnson writes so sensibly that we deem two passages of his message worth transcribing:

"The legislature, at its last session, passed an act to establish a State agricultural bureau, with county and district societies subordinate thereto, &c. By this act the governor of the State was constituted president *ex officio* of the bureau. The bureau was organized, according to law, on the 20th day of April, 1854. Full details of its action will be laid before you by the secretary of the bureau. From his report you will see that county societies have been chartered in seventeen counties, division fairs were last year held in the eastern and middle divisions of the State and by the Sumner county society, and that a new and beneficial interest has been awakened on the subject of agricultural improvements. Division fairs will this year be held in each division of the State, and the biennial State fair is now in progress near Nashville, under your own immediate inspection. The agricultural interest has always been and will probably long continue to be the leading interest of Tennessee. It is wise and proper that it should be fostered and encouraged by the legislature by all reasonable and legitimate means. I am of opinion that the law of 1854 was a wise and salutary step in the progress of agricultural and mechanical improvement and reform.

"Nature has been prodigal in her gifts to our State, and the representatives of the people can render no service of greater value to their constituents than by affording a judicious encouragement to associations having for their object the development of the agricultural and mineral wealth of the State, and stimulating the mechanical skill and industry of its citizens When our people learn that the necessity for labor is a blessing rather than a curse; that 'he who causes two blades of grass to grow where but one grew before is a greater public benefactor than he who conquers armies;' and that honor, fame, and fortune may be as certainly earned in the workshop of the artisan as in the offices of the learned professions, and as freely accorded by the public sense to the former as to the latter, then we shall have lived down an obstacle in the way of State progress as absurd as it is injurious."

THOROUGH DRAINAGE—ITS IMPORTANCE TO SOUTHERN AGRICULTURE.

It was a matter of general remark among the planters, this spring, that they had never known better stands of corn and cotton. The explanation of this fact may inculcate a lesson, in practical agriculture, which we are slow to learn, but which, when once appreciated and acted upon, will prove of incalculable benefit to southern husbandry. We attribute the excellency of the stands of corn and cotton, and the favorable growth of those crops in the early part of the spring, to the fact that the last winter was the driest which we have ever known, and that, consequently, the earth, which generally at seed time is filled with water from

winter rains which ordinarily fall so heavily in our winter, was warm, and, though dry, yet moist enough to vegetate the seed and give them a rapid growth from the start. It is a fact which practical men are beginning to heed, but which seems yet almost unknown, that one of the chief obstacles in the way of successful cropping, even on our most favorably situated fields, is the presence of an excess of moisture in the soil. Most frequently the indications on the surface are sufficient to point out those places where this excess exists; but in many instances this difficulty occurs where a causual examination of the surface discovers no evidence of the fact. Our best lands are those which most commonly suffer from this cause; those which lie level, and which have frequently been enriched from the operation of the very cause which renders them unproductive—low places where the water has been accustomed to settle, carrying with it the vegetable and saline substances which have been washed from other parts of the surface, where they have been decomposed and incorporated with the soil, and are now in a condition to be appropriated by growing crops, possessing all the elements of fertility, and yet being so damp and cold that seed deposited in them either do not vegetate, or, if they do, produce sickly or unproductive crops. How frequently is it the case that the planter is deceived in his estimate of the yield of a field which contains his best land, and ought, he thinks, to make his largest crops. The corn or cotton, however, is spotted. In some places the growth is luxuriant; in others, where the soil is just as good, the crop looks small and yellow. It is these wet spots which reduce the average of the field and disappoint his estimates; and they will continue to do so until the difficulty is removed by thorough draining. To recur to the illustration with which we set out, there are a great many such places which this year are producing fine crops, and heretofore have had scarcely half a stand upon them. The preceding dry winter had drained them, and thus removed the only obstacle to their productiveness. We are throwing away a great deal of labor every year in attempting to make crops upon such spots. No amount of manure, and no amount of labor with the plough and hoe, no matter how judiciously expended, can make good crops on such places. There is too much water in the soil; and until it is relieved of that difficulty it is folly to expend manure or labor upon them. Examine the roots of the crop which feebly struggles for an existence upon those wet places, and the little fibrous rootlets which shoot out in every direction in search of food for the plant, will be found to have rotted and cannot, therefore, perform their office.

We cannot, of course, afford such an expensive system of thorough drainage as is practised in Europe, and some of the densely populated districts of our own country. Where land, for instance, is worth $100 per acre, its owner would be justifiable in going to an expense in reclaiming it, that would be altogether inadmissible in a country where land is sold for $10 per acre. It would be simply folly for an agricultural journal to recommend a system of thorough drainage to its readers, which would cost more than the land would be worth after it was reclaimed; while at the same time, precisely the same system may be profitably adopted in a different section of the country. We do not, therefore, recommend thorough drainage, as the term would be understood in England: for as a question of economy, it would be folly to undertake it here; but at the same time, we do recommend a system of drainage more thorough than we practice in this country, and we recommend it because we believe that it will pay well, even on our cotton plantations which sell at $10 per acre. The most casual observer of our southern plantations must be forcibly impressed with the inattention with which this subject is treated almost everywhere. And we believe, to-day, that southern agriculture would be more improved by strict attention to the wants of the soil in this respect than by any other single step in the right direction. If every half acre within our cultivated fields, which is too damp to produce a good crop, were thoroughly dried, the increase which would be added to our crop would be astonishing.—*Soil of the South.*

EDITORIAL NOTES.

DIRECT TRADE.—We call the attention of our readers to the circular of 'the direct trade and European agency" established at New Orleans. It will be found under our advertisement head. We will take occasion at an early date to refer to this subject again.

SOUTHERN EDUCATION.—See the notice of the University of Mississippi, prepared by a contributor to the Review, and published on the third page of the cover. The south should sustain her own institutions, has ever been our text.

QUARTERLY LAW JOURNAL.—J. W. Randolph, of Richmond, Virginia, issues a prospectus for such a work, which appears among our advertisements. It is an important southern enterprise.

NOTICES OF BOOKS, ETC.

The Newcomes: Memoirs of a most respectable Family; edited by Arthur Pendennis, esq.; in 2 vols. The Harpers, New York, have published the work complete, in very handsome style, in one volume. There are more than a hundred capital illustrations. Everybody will order and read the work, now that it can be had complete. We know of no richer repast that could be served up.

A Visit to India, China, and Japan, in the year 1853; *by Bayard Taylor: New York, G. P. Putnam & Co.*, 1855. Bayard Taylor is one of our most popular and agreeable authors, and what he writes is always sought with avidity. The travels embraced in this volume were in India, China, Japan, the Loo-Choo and Bonin Islands, &c., &c.

Clouds and Sunshine: Art, a Dramatic Tale; by Charles Reade: Boston, Ticknor & Fields, 1855. Mr. Reade is known as the author of "Peg Woffington" and "Christie Johnson," and has announced in press "Susan Merton."

The Araucanians, or Notes of a Tour among the Indian Tribes of Southern Chili; by Ednund Rewel Smith, of the U. S. Expedition. The Harpers publish this volume. Mr. Smith accompanied the naval expedition of Lieutenant Gilliss, and his work is largely illustrated.

Oakfield, or Fellowship in the East; by W. D. Arnold, of the 53d Regiment B. N. J. The author says of his work: "The description of Indian (East) every day life may not be very inviting, but I think the Indian reader will allow it to be, and the English reader in his testimony allow it to be tolerably correct." The work is issued by Ticknor & Co., Boston.

Stray Leaves from the Book of Nature; by Schele de Vere, of the University of Virginia: New York, G. P. Putnam. A southern work is too rare not to be prized. It is full of beauties of every sort.

Blackwood's Magazine for September. Leonard Scott & Co., New York.

Scenes in the Practice of a New York Surgeon, by Edward H. Dixon, M. D., editor of the Scalpel, with eight illustrations by Darley: New York, DeWitt & Davenport, 1855. Doctor Dixon, long known as an eminent surgeon, standing at the very head of the profession, and celebrated likewise as the author of several popular works on health, physiology, &c., has found time, amid his various and laborious duties, to produce a book, many scenes in which are pronounced fully equal, if not superior to Dr. Warren's celebrated "Diary of a London Physician," with this additional interest, that they are actual occurrences in every-day life, happening in our very midst—not matters of fancy.

In addition to the Scenes, are several articles on health, written in a popular manner, each of which is alone worth the price of the book. And we particularly recommend to mothers the Treatises on Scarlet Fever, Hooping Cough, Croup, Consumption, &c., as presenting to all, in a clear and lucid manner, the proper treatment of these common diseases.

Besides its other excellencies, the book is most beautifully executed; the illustrations by Darley are magnificent, and the publishers have spared no expense on the letterpress and binding.